THIS WEEK'S National Petroleum NEWS

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National Oil Scouts Association of America, Fort Worth, Tex., May 20, 21.

Natural Gasoline Association of America, Mayo Hotel, Tulsa, May 21, 22, 23.

Open oil industry conference to consider program at Conference of Weights and Measures, Washington, D. C., June 3. Communicate with Dr. Anderson, American Petroleum Institute, 250 Park Ave., New York, N. Y. for meeting place.

Conference of Weights and Measures, Washington Hotel, Washington, D. C., June 4. (Grease measuring devices to be discussed).

Independent Oil Men's Association of New England: Middletown, Conn., June 12; Wollaston, Mass., July 10; Fall River, Mass., Aug. 14; Providence, R. I., Sept. 11; Worcester, Mass., Oct. 9.

West Virginia Oil Marketers Association, Daniel Boone Hotel, Charleston, W. Va., June 13, 14.

North American Gasoline Tax Conference, Book-Cadillac Hotel, Detroit, Mich., Aug. 7, 8, and 9.

Independent Oil Men of America, Stevens Hotel, Chicago, Oct. 21, 22, 23.

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—Photo by Blank-Stoller, Inc.

EARLE WESTWOOD SINCLAIR, president of the Sinclair Consolidated Oil Corp., entered our industry from the banking business in which he has spent a large part of his business life.

As vice-president from 1908 to 1910 and as president for the next three years of the Exchange National Bank of Tulsa, Mr. Sinclair was as close to the industry as would be possible for any person not actively engaged in it. The Exchange banks at Tulsa have been recognized as an oil institution and have prospered with the growth of the industry in the Mid-Continent.

In 1913 Mr. Sinclair assumed his present position as president of the Sinclair Consolidated. He has been active in its management from New York and keeps in touch with field developments by means of frequent trips through the oil country. He retains a directorship in the Exchange Bank at Tulsa and the Citizens First National Bank of Independence, Kan., where he first entered the business.

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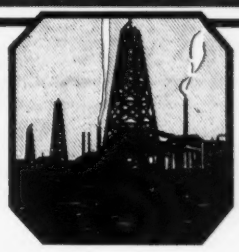

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Prairie Breaks In On Proration Talk With Advance in Crude Prices

By Lawrence E. Smith
N. P. N. STAFF WRITER

(By Telegraph)

TULSA, May 21

WITHHOLDING announcement until late in the afternoon, the Prairie Oil and Gas Co. May 20 posted an advance on all grades of Oklahoma, Kansas and North Texas crudes which it buys, ranging in amount from 17 to 41 cents a barrel.

It is the only advance of consequence that has been made in the Mid-Continent since the discovery of the Seminole field in middle 1926.

The industry outside the Mid-Continent—perhaps part of it there—probably finds it difficult to reconcile this advance in the price of crude with talk of overproduction and with proration still going on in West Texas and California.

The transition from proration of crude production in Oklahoma to an advance in price came suddenly; but there had been warning that the Prairie, largest buyer of Mid-Continent crude, was going to increase its price, regardless of general conditions in this district, or over the country.

The Prairie, according to its own statement, has been drawing oil from storage for months to meet the demands of its refinery customers. That market, the Prairie says, is increasing because of the growth in consumption in the territory it serves and also because of the decline in production in Illinois, Indiana and Kentucky whose output goes into that territory.

The oil thus drawn from storage by the Prairie was sold at an actual loss, it asserts, as it not only had been purchased at a higher price than the market prevailing over the past year, but had acquired additional carrying charges, generally figured at 25 cents a year per barrel.

Opposition to the price change was shared by a number of companies. The Carter Oil Co., subsidiary of the Standard of New Jersey, was firm in its view that national conditions do not warrant an increase. The Carter is also understood to be drawing oil from storage in the Mid-Continent, but it is part of the organization having big holdings in West Texas where potential production is still placed in the millions of barrels daily. The Carter, however, had little recourse except to follow the advance of the Prairie as it stood to lose connections in the Mid-Continent which would be snapped up by the Prairie, Sinclair and other companies.

For weeks there has been active solicitation of oil by the purchasing companies and each wildcat that promises new production finds purchasers soliciting the connection far in advance of completion.

Up to noon May 21 all crude buyers in the Mid-Continent had met the Prairie Oil & Gas Co.'s new schedule on Mid-Continent crude, except The Texas Co., which is considered certain to follow.

The increase in Rocky Mountain crude prices was the natural result of the Mid-Continent change, as this price always depends upon what happens in Oklahoma and Kansas, as does the crude market in Indiana, Illinois and Ohio.

The big point of interest in Tulsa today was whether the price would be advanced on West Texas crudes. If the price there is left unchanged, it will invite refiners to seek crude outside the Mid-Continent, with some available through tank car shipments.

In posting its new schedule, effective as of May 20, the Prairie changed the existing differentials between prices for crudes of different gravities, making a flat five cents for each additional degree gravity from the lowest to the highest.

The old price started with a low of 60 cents for oil below 25 degrees and added 6 cents for each degree upward until the 33 gravity grade was reached. From there on the differential was three cents.

The new price starts with 85 cents for oil below 25 gravity and increases five cents until the top grade of 44 and over which is posted at $1.85.

Prairie Oil & Gas Co. New Schedule for Mid-Continent Crude

Gravity	Cents Per Barrel New	Old
Below 25	$0.85	$0.60
25-25.9	0.90	0.66
26-26.9	0.95	0.72
27-27.9	1.00	0.78
28-28.9	1.05	0.84
29-29.9	1.10	0.90
30-30.9	1.15	0.96
31-31.9	1.20	1.02
32-32.9	1.25	1.08
33-33.9	1.30	1.11
34-34.9	1.35	1.14
35-35.9	1.40	1.17
36-36.9	1.45	1.20
37-37.9	1.50	1.23
38-38.9	1.55	1.26
39-39.9	1.60	1.29
40-40.9	1.65	1.32
41-41.9	1.70	1.35
42-42.9	1.75	1.38
43-43.9	1.80	1.41
44 and above	1.85	1.44

Last previous change by the Prairie was a 1 to 32 cent cut on Jan. 25, 1929.

Announcements by other oil companies of new price schedules in the Mid-Continent and other fields are to be found on page 127, of this issue.

Form of "Interstate Compact" Proposed But Authorship Is Mystery

By Lawrence E. Smith
N. P. N. STAFF WRITER

TULSA, May 18

A SUGGESTED form of "interstate compact" to control the oil industry in the interests of conservation, novel in form and termed revolutionary from a legal standpoint, came to light in Tulsa last week.

It is without sponsorship and, to date, its author has not been revealed. It is not the work of the American Petroleum Institute, whose directors have been considering the subject, and the Secretary of the Interior promptly disclaimed responsibility for it.

Puzzling from the standpoint of origin, its terms were clear enough to cause at once something of a commotion in the Mid-Continent. Its proposals were vigorously assailed by a number of oil men. It became at once a friendless orphan.

Under the terms of the compact, there would be established by the states of Oklahoma, Texas and California, a new legislative body known as the Interstate Conservation Board. Each state would have one member. The board would have full authority to prescribe regulations on drilling, producing, refining, distributing.

The pact declares as its basic premise that the production of petroleum and natural gas, the refining and distributing thereof, are affected with public interest. In other words, the oil industry would become in a sense a public utility and the proposed board would have full authority to decide when and where any phase of oil industry conduct was against public interest.

The executive committee of the American Petroleum Institute has been called to meet in New York May 21. President E. B. Reeser said the committee was called specifically to discuss the interstate compact question and that the present proposal will be considered. Directors of the A.P.I. will meet May 28 to consider whatever recommendation is made to them by the executive committee. Mr. Reeser doubted that a public statement would be made in advance of the director's meeting.

The proposed compact was published in the *Tulsa World* May 15. It had been sent to the institute directors 11 days earlier and copies had been mailed to some industry executives several days before it appeared in print. It was not formally released by anybody.

From a letter sent by Secretary of the Interior Wilbur, who is chairman of the Federal Oil Conservation Board and who first publicly broached the subject of interstate compact as applied to the oil business, it appeared that the federal board was sponsoring this proposal, which was styled "First Draft of Interstate Oil Compact."

Immediately after its publication, William H. Gray, proprietor of the National Association of Independent Oil Producers, sent this telegram to the secretary of the interior:

"The press announces your proposal to the American Petroleum Institute for the conservation of oil. This document has been in my hands for several days. If your suggestions were accepted by the industry it would mean the nationalization of the industry and if you are going to nationalize one industry, nationalize all of them. So long as I live I will oppose the principle of nationalization. I am making this statement as an independent producer and I believe it represents the sentiments of most of the producers and land owners in the great United States."

Oil Board Awaits Smith On Conservation

WASHINGTON, May 18.—Definite plans for petroleum conservation or any recommendations toward that end will come from the Federal Oil Conservation Board only after the return of Dr. George Otis Smith from California.

Dr. Smith, director of the U. S. Geological Survey and the board's conservation emissary, is busy in Los Angeles trying to get the various interests of Kettleman Hills into some sort of agreement to hold back development of that area.

At the Department of the Interior, it was said he was meeting with some difficulty as there are three groups to be reconciled, the government permit holders, the royalty interests and the established operators. Permit holders and royalty holders for the most part want development to go ahead now.

Mr. Gray's telegram drew the secretary's fire at once. May 16 he wired Mr. Gray:

"No proposal has been made by me, or by the Federal Oil Conservation Board, to the American Petroleum Institute regarding the form of an interstate compact for the conservation of oil. A number of rough drafts of suggested compacts have been submitted to me and exchanged among the various forces voluntarily working on this problem. I assume that your telegram refers to one of these exchanges which has come into your hands from an unofficial source.

"No compact has been formulated by myself or the board and none will be, as the problem is one for consideration by the industry itself and by the states concerned. Your own suggestions as to a compact will be appreciated but will no more constitute an official program of the conservation board than does any draft which you may have seen."

IT IS known that, on May 4, Secretary Wilbur wrote President Reeser of the institute as follows:

"Your kindness in forwarding me the summary of the Committee on State Compacts submitted to the Conference of Commissioners on Uniform State Laws is greatly appreciated.

"The compact idea and reconciliation with varying state constitutions will, of course, require careful study. But with the idea of furnishing a starting point, I am enclosing a rough draft of a suggested compact. The practicability of any compact will depend upon the experience of the industry itself, and the present suggestion is not intended as a standard either for form or for substance."

The "rough draft" of the compact herewith published was the one sent with Secretary Wilbur's letter to President Reeser. At least, the two came out from the A.P.I. office, fastened together with a staple in the upper left corner.

President Reeser says the "summary of the committee" referred to in Secretary Wilbur's letter was a synopsis of state compacts that have been executed in the past, such as those dealing with harbors, water power and irrigation projects, which synopsis was prepared by W. R. Boyd

Jr., executive vice-president of the institute.

President Reeser said that the institute directors were unacquainted with the form of a state compact, the legal premises upon which it rests and the machinery of its adoption. Copy of Mr. Boyd's synopsis was sent to the federal board, Mr. Reeser said, just as the institute directors have sent to the board copies of all other official acts dealing with conservation.

A query as to the authority of Mark L. Requa to call upon governors, as he recently did upon Governor Holloway, of Oklahoma, in the promotion of the interstate compact plan of oil conservation, was made in a letter written by W. R. Ramsey, president of the Ramsey Petroleum Corp., Oklahoma City. He wrote to Secretary Wilbur and made the letter public. After expressing his disapproval of the compact proposal, Mr. Ramsey wrote:

"Who is Requa and who is he hired by, unsolicited by the independent producers of Oklahoma, to write a compact between the different oil states without their consideration, knowledge or consent, and ask that it be submitted to the legislature of the different states? Who pays his salary to take such an important interest in the affairs of the producers of the three states that he proposes to jam this legislation down their throats, without presenting the whole scheme to the producer? If this isn't the utmost high-handed manner of handling it that has ever been attempted on the people, I would like to know of a parallel case.

"I would further like to know what interests prompt Requa to take such an active interest in his so-called proposal to prevent waste. I challenge him to show me and the independent producers of this state where there is a waste of oil and gas. I believe that it is time that the people of the producing states take a hand in this affair and ask for a thorough investigation of an extraordinary effort on behalf of certain interests to control and regulate the production of oil and gas and control and regulate the price to suit themselves."

As to the "rough draft" of the proposed compact, whose authorship is unknown: It establishes a federation of states, starting out with the three previously named. Each would have a representative; a majority of the board would control. The board's regulations would have the full force of law and it is not, under this plan, limited in its scope of authority.

The plan, as will be seen by reading it, would do the following things:

1—Declare a private business to be a public utility.

2—Delegate the powers of a legislature to another agency.

3—Set aside such constitutional guarantees as sanctity of contract and the enjoyment of private property.

Text of Orphan Draft of Interstate Compact

THE States of California, Texas and Oklahoma having resolved to enter into a compact under acts of their legislatures subject to approval by the Congress of the United States, have, through their Governors appointed as their Commissioners

For the State of California
For the State of Texas, and
For the State of Oklahoma, who after regulations participated in by ..... appointed by the President of the United States of America, have agreed upon the following articles:

ARTICLE I

The major purposes of this compact are to enable uniform action by the states parties to or adopting it, for the prevention of waste in the production of petroleum, natural gas and their products, for the restriction and regulation of drilling and production operations necessary to prevent waste, and for conservation of natural resources.

ARTICLE II

As used in this compact,

(a) The term "waste" includes both physical loss and economic waste.

(b) The term "economic waste" means loss of maximum potential productivity by use of inefficient means in production, refining and distribution.

(c) The term "party" means a State party to or adopting this compact.

(d) The term "'Board" means the Interstate Conservation Board established hereby.

ARTICLE III

There is hereby established a commission to be entitled the Interstate Conservation Board. Its members shall be appointed by the Governors of the signatory States, subject to approval of their legislatures. One member shall be appointed from each signatory State. Each member shall be a qualified expert in geology or the production or refining or distribution of petroleum, gas, or their products. The Board may act by its officers elected by it, but a majority of the Board's membership must approve any authority so conferred. In other cases the act of a majority of a quorum consisting of two-thirds the Board's membership shall be the act of the Board. The expenses of the Board, including salaries of its members and employes, and fees of counsel, shall be borne equally by the signatory States.

ARTICLE IV

Each State, by its ratification of this compact enacts the following subdivisions of this article as law to be effective upon ratification by all the other States:

(a) The production of petroleum and natural gas are declared to be businesses affected with a public interest.

(b) Where the production of oil and the production of gas conflict, the production of oil is declared to be the paramount public interest of the two.

(c) Production, refining and distribution by any method whereby the maximum feasible recovery of gasoline is not effected, are declared to be opposed to the public interest.

(d) It is unlawful to permit the flow of gas or oil from any well to escape into the open air without being confined within such well or proper pipes or other safe receptacles, for a longer period than two days next after gas or oil shall have been struck in said well.

(e) Preservation of gas content being necessary to maximum oil production from pools containing both oil and gas, production of oil by any method whereby the minimum possible ratio of gas to oil is exceeded is unlawful, even though all the gas so utilized is confined in receptacles after issuing from the well.

(f) It shall be lawful for any number of producers of oil or gas from one known geologic structure to agree to restrict production from their properties in order to avoid waste; but no such agreement may be executed without the consent of the Board established by Article III, or, in default of its action, consent of the Governor.

ARTICLE V

The board is authorized and directed to enforce and administer the terms of this compact, and to do all acts necessary for that purpose. Its powers shall include, but not be limited to, the promulgation of regulations, the supervision of drilling, production, refining, distribution, the appointment and authorization of agents to carry out its powers, the restraint of operations declared opposed to the public interest. Its promulgated regulations shall have the force of law.

ARTICLE VI

Upon the promulgation of regulations by the Board all statutes relative to oil and gas are declared re-

pealed, but the Board is empowered to promulgate as regulations such existing statutes as it deems desirable, not in conflict herewith.

ARTICLE VII

If any State not a party hereto adopts this compact by proper legislation with the consent of the parties, it shall thereupon become a party as though a signatory and may appoint a new member of the Board, qualified as provided by Article III.

ARTICLE VIII

The Board is authorized to exercise such authority as may be conferred upon it by the Government of the United States.

ARTICLE IX

This compact may be terminated at any time by the unanimous agreement of the then parties to it. In such event the provisions hereof shall remain in force as a statute of each of the states until it has been repealed by the enacting State. Any State may withdraw from this compact on one year's written notice to each other State, in which case the compact shall remain in full force as to the other States.

ARTICLE X

This compact shall become binding and obligatory when it shall have been approved by the legislatures of each of the signatory States, and by the Congress of the United States. Notice of approval by the legislatures shall be given by the Governor of each State to the Governors of the other States and to the President of the United States.

In witness whereof the Commissioners have signed this compact in a single original, which shall be deposited in the archives of the Department of State of the United States and a duly certified copy shall be forwarded to the Governor of each of the signatory States.

Done at the city of ....., This ..... day of ..... A. D.

APPROVED

Observer appointed by the President of the United States of America.

Compact Would Make Public Utility of Oil Industry

By Harry H. Smith

Secretary Mid-Continent Oil & Gas Association

"MEMBERS of the Mid-Continent Oil & Gas Association have made inquiries at this office as to the origin and sponsorship of the proposed 'compact' between oil producing states on control of the oil industry recently published.

"Investigation locally does not reveal the authorship of the proposal nor from what quarter it came. The recently published telegram of Secretary Wilbur stating that neither he nor the Federal Oil Conservation Board had drafted any proposal for a compact of this nature should remove any anxiety concerning official sanction of the published document. It is generally regarded at this time as merely the suggestion of some unofficial contributor who wanted to start the ball rolling under the previous suggestion of the Federal Oil Board that the compact idea be studied and considered as a means of stabilizing the oil production business.

"It appears certain that no organization within the oil industry had anything to do with writing the suggested compact or is likely to support such a revolutionary plan as that outlined therein. It must be remembered that the activity within the oil industry thus far has been confined to discussion of proposed cooperative plans for orderly development and conservation to prevent waste by action of the industry itself, aided by such state authority as is available and that no thought was entertained of attempting to change the character of the oil industry from that of a private business to a public utility.

"The Conservation Plan proposed by the Institute to curtail production was submitted to the Federal Oil Conservation Board and failed to receive positive endorsement. Thereafter it was the Federal Oil Conservation Board itself which suggested that the idea of a compact between the oil producing states, approved by Congress, might be developed and utilized for this general purpose. The industry, therefore, is waiting and probably will continue to wait for some concrete or definite suggestion from the Board itself as to what sort or character of a compact could be devised and utilized for that purpose.

"By way of criticism of the published proposal it is submitted that the object there sought of changing the constitutional character of the oil business from a private enterprise to 'a business affected with a public interest' could not be accomplished even by a compact between the States approved by Congress. For, after all, the immunity of the private oil business from the governmental regulation proposed in that suggested compact is an immunity guaranteed by the Constitution of the United States and cannot be taken away by legislative action.

"The Supreme Court of the United States in a long line of decisions has stated and reiterated the principle that such private business as mining and the manufacture and sale of commodities are not to be considered as affected with the public interest so as to justify legislative control of operations or price fixing. In the very recent case of Williams vs. The Standard Oil Co., this doctrine was applied to the business of distributing and selling gasoline and the Court held that the State of Tennessee could not fix the prices at which gasoline might be sold.

"The same subject is fully developed in another recent case of Tyson vs. Banton, 71 Law Ed, 718, wherein it is pointed out that the right of the owner of a private business to conduct it and to fix prices at which his property shall be sold or used is an inherent attribute of the property itself and, as such, within the protection of the due process clauses of the Federal Constitution.

"In the case of Wolff Packing Co. vs. Court of Industrial Relations of Kansas, Chief Justice Taft pointed out that it has never been supposed since the adoption of the Constitution that the business of the butcher, or the baker, the tailor, the woodchopper, the mining operator or the miner was clothed with such a public interest that his business could be regulated or his prices or wages fixed by State Regulation. And that one does not devote one's property or business to the public use or clothe it with the public interest merely because one makes commodities for and sells to the public in any of these common callings.

"It would seem from this casual examination of the authorities that the oil industry need not fear that any compact hereafter devised or suggested would have any chance of adoption or enforcement if it attempts to go anything like as far as that suggested in the one recently published in the press."

EVEN an interstate compact, approved by the federal congress, could not go to the length in changing the character of the oil industry that is proposed in the present draft of the compact recently made public at Tulsa, in the opinion of Secretary Smith, of the Mid-Continent Oil & Gas Association. The oil industry, along with other industries, he believes, has certain immunities guaranteed by the constitution which even legislative action cannot take away.

Texas-California Prorating Kept Up In Face of Oklahoma Secession

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, May 16

OKLAHOMA'S secession from the ranks of states prorating crude oil production will not prevent California and Texas continuing their stabilization work.

Neither will be able to curtail 1929 production to the daily average level of last year, as contemplated under the American Petroleum Institute plan that was frowned on at Washington, but other reasons than Oklahoma's defection are responsible.

In California, there is need for a change in prorating machinery if the proposed curtailment to approximately 650,000 barrels daily is to be attained. The practice of allowing new completions there to flow unrestrained for 10 days before coming under jurisdiction of the umpire offsets a large part of the curtailment gained by prorating older wells, thereby holding daily averages at higher levels than contemplated.

A proposed fundamental change in prorating practice, which would effect a horizontal cut of varying percentages in all California fields, had failed to materialize when Umpire F. C. van Deinse issued his third general order, effective May 16.

It had been suggested that a prorating cut of 10 per cent apply on all wells producing 20 barrels daily, or less; 15 per cent on wells averaging from 20 to 200 barrels; 20 per cent on wells making from 200 to 500 barrels; and possibly up to 30 per cent on wells good for more than 500 barrels.

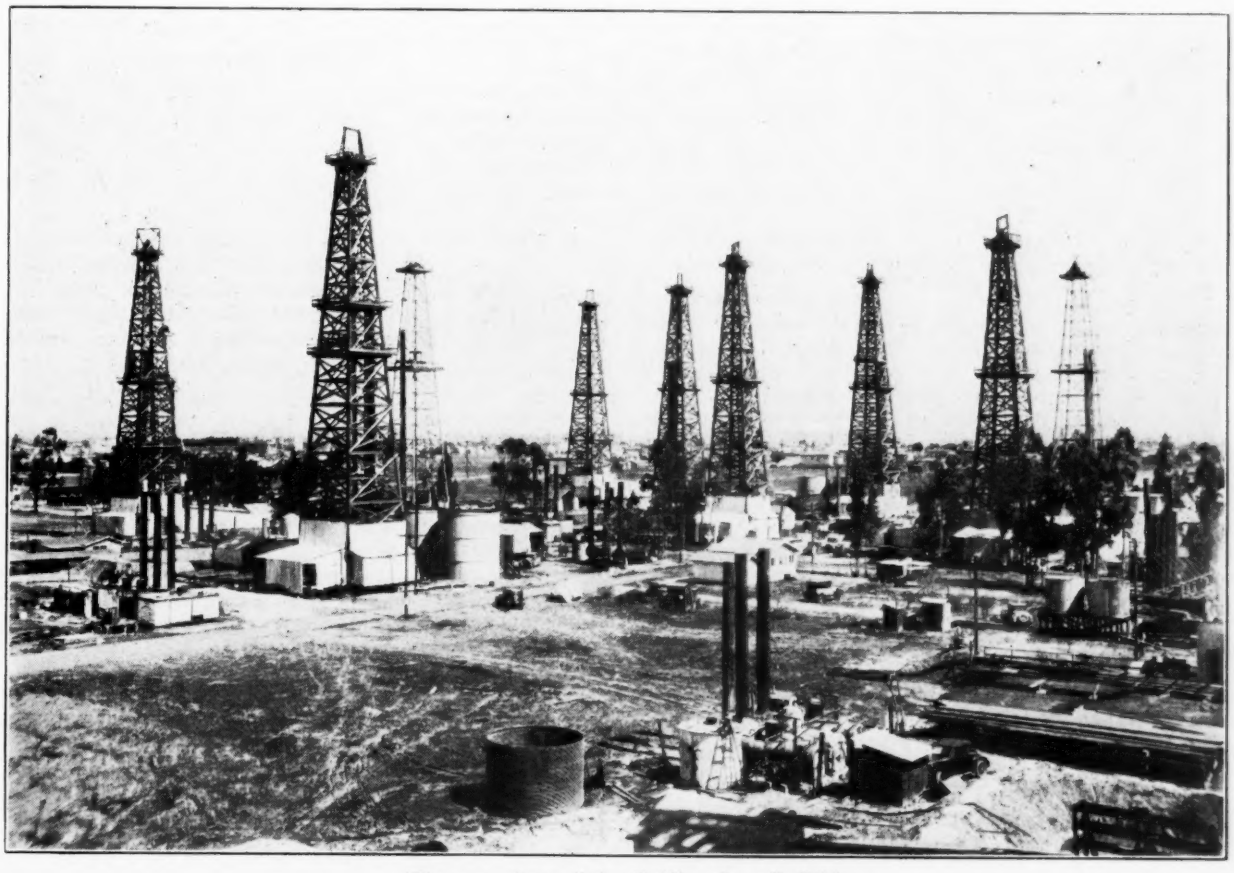
Whether or not this change, or something akin to it, materializes later the fact remains that California places great faith in its newly voted gas conservation measure, which now awaits only the governor's signature to make it a law.[1] Under its strict enforcement, engineers believe daily average production of California would be cut to a level between 650,000 and 700,000 barrels daily even without the aid of prorating machinery.

With principal California operators taking their stabilization seriously it is not doubted on the Pacific Coast that prorating practice, plus future operation of the gas statute, will soon bring their situation under a fair measure of control.

An inability to prove present physical waste in areas of great potential overproduction will prevent Texas, through its conservation agency, limiting daily averages in such districts as the Yates field, Pecos county, to their present levels.

It is forecast in responsible quarters, and borne out by measurable conditions, that Yates field allowable production will have to be increased to perhaps 130,000 barrels daily about July 1. This should not, how-

[1] National Petroleum News, page 27, May 8, 1929.



The new Lawndale, California, oil field

ever, increase the state's daily average above its present approximate level of 780,000 barrels daily; because fresh demand for Yates crude reflects declines in exploitable quantities from the Winkler and Howard-Glasscock areas of serious water encroachment.

Yates field had been prorated since early in the year on market outlet of 87,500 barrels daily until its increase, May 10, to 100,000 barrels. Winkler county has been prorated since April 1 at 150,000 barrels daily and the Howard-Glasscock territory at 37,500 barrels.

IT IS questioned in many quarters whether there longer exists an exploitable potential in Winkler county above the level of actual production. Admission is made by all that the field could make more oil for a few days than it is now doing, but water flooding caused by further dissipating of pressures would fall little short of a cataclysm.

There are already 60-odd wells in the Winkler field that are admittedly unable to produce their allotments and many others that their owners are unwilling to put on 1-hour open flow tests to gage their potentials for prorating.

Because of conditions mentioned, the Winkler prorating yardstick continues to be made up by rating wells on percentage declines from their old potentials. Any operator has the privilege of opening his well, or wells, under 1-hour test, in establishing his prorating allowance, but in few cases is he willing to do so.

In the Howard-Glasscock area, few wells have been able to sustain production at their allowable ratings,[2] either under the new field limit of 37,500 barrels put in effect April 1, or previously. There, the practice of giving wells a "running start" in tests for prorating purposes has been responsible.

Yates pressures continue to hold, due to the steady withdrawals made from a field that was prorated at all times from the beginning on market outlet of less than five per cent of its rated potential daily production. Its total potential established by 1-hour tests in the prorating yardstick now stands at 4,856,967 barrels from more than 300 wells.

More than 1,000,000 barrels daily of the Yates field potential is believed to be exploitable were it either desirable or practical to bring that quantity of crude out of the ground. It is believed that possibly half that quantity could be taken out daily without courting water encroachment, provided withdrawals were evenly distributed.

In the face of recognition of such a condition it probably will be impossible to limit allowable production to the present maximum when demand appears shortly for Yates crude to replace declining quantities available in the Winkler and Howard-Glasscock areas.

Prorating orders of the Railroad Commission of Texas, under its conservation powers, cover only the prevention of physical waste and it is doubtful if they could apply when, if and as market demand for increased quantities of crude appears in the Yates field.

Although conforming to operating restraint under its own general policy, the Gulf Production Co. is now seeing fit to run its own oil from the Yates field, taking away from other companies a quantity of crude they had been purchasing at the prevailing posted market of 65 cents a barrel.

Shell Pipeline Corp., which recently completed a second 40,000 barrels daily capacity system out of west Texas, will draw on Yates field, beginning about July 1, for part of its pipeline capacity, possibly as much as 30,000 barrels daily; and The Texas Pipeline Co., it has informed the Pecos County Prorating Committee, is in the market for at least 10,000 barrels of crude daily from that area in the late summer or fall.

Increased summer demand for Oklahoma crude, estimated at as high as 725,000 barrels daily, brought about an economic situation that precluded the Corporation Commission having legal basis for continuance of the state's curtailment at or below 650,000 barrels daily.

THE fact that certain companies refused to participate longer in the program fits in with the legal situation mentioned, plus a condition under which more oil was needed than they already controlled to supply customers.

Action taken in Oklahoma did not represent a demand of producers for removal of all restrictions. Rather, it took cognizance of a summer crude demand in excess of current supply. It is proposed that the Corporation Commission shall continue jurisdiction to the end that no over-production shall take place in that state.

Oklahoma leaders, with whom the writer has been in touch, are unwilling to have the impression go out that they will no longer cooperate in the conservation movement. They want to avoid weakening of stabilization effort in states where great potential overproduction exists.

It is recognized that for the time being, at least, Texas could produce more than 1,000,000 barrels daily over and above its present actual daily averages, were operators willing to endanger such properties as those in the Yates field by courting water encroachment. The state could produce 1,000,000 barrels daily, or more, for an indefinite period, without any dangers whatsoever.

In California, the state undoubtedly could produce more than 1,000,000 barrels daily for months ahead, were it not for prorating cutbacks and the future effect of gas control under the new statute.

First hand study of the California situation brings out that its background would be as serious as that of 1923 were it not for the fact that in 1929 the owners of the greater part of the production are in hearty accord with respect to the necessity for conserving gas and curtailing excess quantities of crude oil.

IN 1923 daily average production could have exceeded 1,000,000 barrels daily had it not been that Los Angeles Basin fields were prorated. Peak production of 1923 was held to 872,000 barrels, attained in July; and the daily average spread over the entire year was 720,200 barrels, according to American Petroleum Institute figures.

In 1929, California daily averages for February attained the recent high level of 797,800 barrels, compared with 747,250 barrels in January and levels exceeding 780,000 barrels daily at all times from March 1 until May.

The backlogs of California production, which permits its being sustained at high levels, is greater than ever before in the state's producing history.

In 1923 there was shut-in possible production of approximately 100,000 barrels daily in the non-prorated oil fields at the time peak exploitation was reached; later, in October, the total of this type shut-in oil amounted to 130,000 barrels.

Shut in possible production of California in 1929, prior to the beginning of prorating, was approximately 120,000 barrels. More than 90,000 barrels of that total has been shut in most of the time since 1923.

It has been shown by the opening of San Joaquin Valley wells, where much of this type of shut in possible production exists, that they are not injured by such handling. Tests of wells shut in at the time of the 1923 crisis showed that closing had allowed them to accumulate pressure and they made more oil on opening than before, resuming their normal decline curves in about 60 days.

The problem of current completions coming into the California picture and offsetting prorating cutbacks is especially serious in the Santa Fe Springs town lot area. There, deep drilling accounts for approximately 250 projects to the Buckbee producing zone, at 5600 feet, or to lower horizons.

[2] NATIONAL PETROLEUM NEWS, pages 67-68, April 17, 1929.

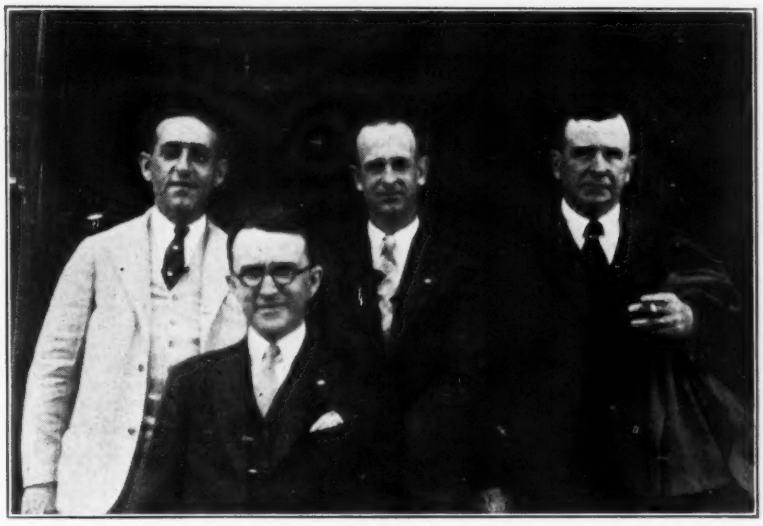
Virginia Marketers Seek Terminal And Gasoline Tax Compensation

RICHMOND, Va., May 17

A DEEP water terminal to serve the Independent marketers of Virginia and compensation for oil marketers for collecting the state gasoline tax, were considered at the two-day meeting here May 15 and 16 of the Virginia Oil Men's Association.

The association dropped the word "Independent" from its name, believing that it should open its membership list to representatives of the major oil companies which occupy a dominating position in the state.

An emblem which members of the association may display at their service stations, was adopted. The emblem is a medium red circle across which is an outline map of the state of Virginia in blue. The lettering in which is: "MEMBER VA. Oil Men's Association." The word "member" is at the top of the emblem but inside the circle. The "Va." rests on the map of the state and the remainder of the association's name is worked in below the map.



Four directors of Virginia Oil Men's Association. Left to right: A. Rubin, Charlottesville, Va.; M. B. Whiting, Clifton Forge, Va., president of the association; F. W. Rade, Rosslyn, Va., and T. C. Watkins, South Boston, Va.

M. B. Whiting, Clifton Forge, was elected president of the association for the ensuing year. He had been first vice-president and secretary. P. S. Ford, Martinsville, is the retiring president. He served two years, the maximum term permissible under the association's constitution.

P. P. Hunter, Roanoke, was elected first vice-president; A. Rubin, Charlottesville, second vice-president, and F. W. Rade, Rosslyn, third vice-president. Mr. Ford was elected a director to succeed J. O. Krouse, Berryville, who has sold out. T. C. Watkins, South Boston, was elected to succeed Mr. Rubin who was elected a vice-president.

Directors who are holding over are: George S. Hewitt, Richmond; S. D. DeShazor, Petersburg; William Eiler, Petersburg; J. B. Belk, Charlottesville; J. K. Cunningham, Norton; Paul Hemmelbaub, Washington, and B. E. Nelson, Mount Jackson.

The questions of a tide water terminal to serve the Virginia marketers and of compensation for acting as tax collectors were referred to committees which will report to the association's board sometime in the future.

A tide water terminal has been discussed for several years in Virginia and Independent interests about two years ago built one at City Point on the James river below Richmond. Facilities at this terminal have now been leased to the Shell interests and the only other large terminals are owned and operated by major companies. These terminals are in the Norfolk district.

The James River Oil Co. of Richmond has a barge terminal in this city but it is serving this company only. It is impossible to bring ocean-going tankships as far inland as Richmond and the marketers who desire a tide water depot are desirous of getting tanker shipments.

S. D. DeShazor, Delta Oil Co., Petersburg, presented a plea that all marketing companies in the state should work to get at least 3 per cent of the gasoline taxes collected for their work as collectors and to cover unavoidable losses such as evaporation and shrinkage.

Virginia elects a legislature next fall but the election really will be settled at the Democratic primaries in August, notwithstanding the fact that the state went Republican in the 1928 presidential election.

Mr. DeShazor urged the oil men to call on all candidates before the August primary to lay before those candidates the oil men's case so more friendly consideration may be had when the new legislature convenes.

The association has succeeded, the convention was told, in opening the state's gasoline trade to Independent marketers. Formerly the state highway department bought gasoline used in highway construction for the state as a unit and only from companies that had statewide distribution. Now the state has been divided into 26 districts and any marketer in any district may bid on gasoline for the district in which he may economically make deliveries.

Col. T. A. Peck, chief engineer, Shell Petroleum Corp., St. Louis, outlined the evolution of lubrication systems in automobile engines. He spoke at the association banquet in Hotel Richmond.

HE BLAMED most of the lubrication difficulties on the automotive engineers who, he said, had not given due thought to lubrication system designs until recent years.

"There is no oil on earth so poor that it will not lubricate an engine," he declared in answer to a question as to what was "the best" motor oil.

Gov. Harry F. Byrd complimented the association on its cooperation in promoting the welfare of Virginia. A short historical talk was given by Mayor J. Fulmer Bright of Richmond in welcoming the oil men to the capitol.

* * *

James A. Belk, Albemarle Oil & Gas Co., Charlottesville, Va., has bought an 800-acre farm near Charlottesville and intends to breed thoroughbred horses when he retires from the oil business.

Mr. Belk who has always been active in the affairs of the Virginia Oil Men's Association and its president for the maximum allotment of two terms, says he has budgeted his life and intends to retire from active business at 45—two years and eight months hence.

This is the sort of a "combine" that the farmer has no resentment against. It cuts his wheat and threshes it and leaves it sacked on the field. Harvest time is pay day in the Dakotas

30 Day Credit on Oil Purchases Is Being Enforced in Wheat Belt

By Ward K. Halbert
N. P. N. STAFF WRITER

MINNEAPOLIS, May 17

FARMERS in the spring wheat country are being asked to pay cash for their motor fuel this season to a much greater extent than usual.

It is a well established custom in this section for the farmer to pay when he sells his wheat. The rule applies to notes in bank, open accounts with merchants and miscellaneous purchases.

The operation of this custom works a greater hardship upon the oil marketer than most merchants who supply expendable materials to farmers. Gasoline and oil for the farmer's motor car plus kerosene and oil for his tractor from seed time to harvest, is a big bill.

This year the farmers are not paying up as well as usual. The oil jobbers' margins in this section have been narrower for the past year than for about three years preceding. The average oil man would have less cash in bank than he has ordinarily at this season (in proportion to volume handled) even if collections were normal—and they are not normal.

There are two horns to the oil man's dilemma. He has made less profit than usual on his merchandise and has been paid for less of it. This set of conditions has literally driven the oil men of the Great Plains to get cash from the farmers for current deliveries, even if collection of the 1928 bill is deferred. One Minnesota oil jobber stated publicly last week that he had three times as much oil and gasoline on his books as his tanks would hold.

Reasons for the farmers' not paying their 1928 oil bills are obvious to persons who know the wheat farmers and their problems. Merchants waiting for their money have accused the farmers of holding their 1928 grain, refusing to sell in the hope of getting more for it when (and if) congress concocts some sort of farm relief. The allegation is only partly true.

Farmers of Minnesota, Montana and the Dakotas are holding more of their wheat than usual on the farm or in their community elevator. The amount is more than usual when computed in bushels but it is not a very much larger part of the crop than usually is carried over from one year to the next. More acres than usual were planted to spring wheat in 1928 and the yield per acre was larger.

Figures released by the Federal Reserve Bank in Minneapolis this week for publication, show that the wheat crop in the four previously mentioned states totaled 278,642,000 bushels in 1928 as against 276,710,000 bushels in 1927, an increase of approximately 2,000,000 bushels. With 2,000,000 bushels more on hand the farmers actually stored 5,500,000 bushels more in 1928 than in 1927, more than twice the increase in yield.

Grain held on the farm and in local elevators usually is between 15 and 20 per cent of the crop. Nobody knows exactly what is in such storage now but bankers in the small wheat towns, who have a better way of knowing than most people, estimate that less than 20 per cent is being held this year. A smaller percentage was held the year before because the farmer's price was better.

THE Minneapolis wheat quotation is about 50 cents a bushel lower now than it was this time last year. The farmer actually gets between 20 and 25 cents less than the Minneapolis quotation—depending on how far he is from the market. Current Minneapolis quotations hovering just above

$1 mean about 80 cents to the farmer who has considered for years that it cost him $1 a bushel to produce wheat. Bankers say the estimate is about right, agreeing that wheat is not being produced for much less than $1.

Wheat is lower in price than it has been for several years and the farmers are holding about all of it they can. One method of holding is to ask the oil man, who has been so generous with his credit in the past, to extend further credit.

IT IS not a matter of how much grain the farmers in the wheat country are holding in storage. It is not an exceptionally large amount and if it were the oil man is not in a position to do anything about it. Just now the oil men in this section are undergoing the tortures of shifting from an annual credit basis to one of spot cash or, at most, 30 days. As expressed by a small town banker who also is an oil jobber:

"The oil men have been 'scabbing' the banking trade. They have been extending credit on oil and gasoline month after month all year. In order to get cash to buy the material they sell on credit, they have been obliged to borrow at the bank and pay 8 per cent interest. Eight per cent approximates 1 cent a gallon on gasoline delivered.

"If the oil man, in order to do business, has to carry the whole burden of credit on oil for the whole community he is entitled to compensation when the oil is finally paid for at the end of the year. In other words it is worth approximately 1 cent a gallon to put out gasoline on credit and we are not getting it. We have been selling on a credit basis at cash prices.

"If somebody must go to the bank and borrow money to pay for the fuels and oils used by automobiles and tractors, it should be the owners of the machines that use the material. Thus the interest burden would be equitably distributed over the community without placing too much of a burden on the oil man. The banks cannot be 'soft' with the oil companies and increase their loans just because they (the oil companies) have used loose credit methods in dealing with the farmers.

"The most that can be expected of the banks is that they help the

What the Oil Jobbers Say

I have cut my credit terms to 30 days and retained every valuable account.

* * *

A farmer has as much money at the end of any month as at the end of December.

* * *

If a farmer's account comes to you unsolicited, watch it. He probably owes every company but yours.

* * *

Try to buy something from a farmer on credit and you will find him one of the best business men on earth.

* * *

Give your truck drivers an authorized credit list and let them credit others at their own risk if at all.

* * *

Collecting is expensive and annoying. A truck driver can collect easier at the time of delivery than ever again.

* * *

On present margins, an account three months old is unprofitable and an account four months old is handled at a loss.

* * *

It is possible to do business on credit but real buys are made with real money. Cash is necessary to take advantage of genuine bargains.

* * *

My truck drivers are on salary and commission. This year I withheld commissions on unpaid accounts to stimulate collections. It cut my credit accounts in half.

A wheat drill on a North Dakota field. If wheat is not planted by May 1 it is too late. But the tractor fuel is seldom paid for before October

Union Co-Operative Oil Company

Gasoline - Oils - Greases

HECTOR, -- MINNESOTA

TO OUR PATRONS

Because of the enormously large amount of charge accounts on our books and because of the fact that such accounts are constantly increasing in size, we have come to the conclusion that a stricter policy with reference to credit allowances must be adopted if we are to survive as a business institution.

Another thing which is now looming up on the horizon, is an increase in the gasoline tax and unless something is done to get away from the system we have used in the past, this is going to be the straw that is going to "break the camel's back."

We are not the first ones to realize the impending disaster; oil companies in different parts of the state have realized what is coming and have taken steps to protect themselves as early as last fall, and we have been informed that customers as well as the companies having adopted a policy, such as is explained in paragraph below, are very much enthused over the results already obtained by such policy.

The following is the rule adopted with reference to credits:——

All credit purchases made during any given month will be due for payment on the first business day of the month following. After this date thirty (30) days will be allowed additionally, but on this date payment must be made in full (for amount actually due) or we shall be obliged to hold customer to a strictly cash basis, for subsequent purchases, until payment is made. This applies to those having an approved credit rating.

All accounts on our books must be paid in full by May 15th, 1929, and no sales will be made, except for cash, after May 15th, 1929, to those having owed us previous to January 1st, 1929.

We very much regret that we have been forced to adopt this policy, yet we are firmly of the opinion that in the end both we and our customers will be benefited by the adoption of this policy and it is our hope that we shall have our customers' hearty support in this matter.

UNION CO-OPERATIVE OIL COMPANY

The above hand-bill was used as a circular letter to rural oil customers in Minnesota. It shows how the local oil men are insisting on cash for their merchandise, even from one-crop farmers

oil men collect their bills from the farmers. In the meantime the oil men will have to begin to get some money for the material they deliver to the farm trade."

The farm credit problem is not as serious a one in North Dakota as it is in Minnesota, but the shift from a basis of annual credit will be harder. North Dakota is almost exclusively a wheat country. It is a one-crop state. There are two kinds of farmers, large and small. The small farmers, having nothing to sell but wheat, must sell it to live. If it fails to bring enough revenue to meet the annual bills the farmer has to refinance at the bank.

The big farmers are usually pretty good business men. Some of them are full-handed enough to hold as much as half their crop if they wish. But such farmers have good standing at the bank. They always have some working capital and usually pay their obligations when billed.

Quite a few such farmers live in the city and visit their land only twice a year, at planting and harvesting time. A banker in Mandan, N. D., said recently that a superficial survey of the wheat belt had convinced him that most of the stored wheat was in the hands of these large farmers. "Five or 10 per cent of the farmers are holding 15 or 20 per cent of North Dakota's 1928 crop," he said. Most of the farmers are holding only seed wheat.

"Farmers have a way of considering wheat in an elevator, a perfectly safe investment," a commission merchant in Minneapolis said recently. "If properly cared for it loses about two pounds per bushel but gains in value enough to compensate for the loss in weight. If covered by insurance it is all right but it is a bear on the 1929 crop. If the United States and Canada both have another big crop in 1929 the farmers will again be unable to get cost for their wheat and their credit will be in worse condition than it is now."

Officials of a little bank in northern Minnesota told a group of oil men recently that it was no favor to a farmer to extend him annual credit on oil. "If he pays his bills for necessities as he goes, from current income or working capital, he is not so likely to spend his money for luxuries and end the year in debt," he said.

THERE is less excuse for extending annual credit to farmers in Minnesota than in the other states where oil men have complained of its consequences. Minnesota is not a one-crop state. Only the western tier of countries is in the wheat belt proper. The rest of the state has cattle and hogs, feed and potatoes. Every road is a milk route and almost every farmer sells milk.

"Let me pay for the gasoline when I sell my wheat," in Minnesota is an unjustified request. Gasoline is a current expense and wheat is considered the money crop. The monthly oil bill naturally should be paid out of the monthly milk check—at least in most instances.

The habit of annual credit has spread into this part of Minnesota from the wheat belt, and Independent oil men have grown accustomed to extend it because it made selling easier. Now they are quitting it because narrow margins on gasoline and oil will not permit it.

The Minnesota Petroleum Association has held four district conferences during the current month, announcing that "Farm Credits" was the main topic for discussion. May 1, at Wilmar, 57 oil men assembled; 21 got together at Winthrop the following evening; 27 met in Rochester on May 6, and 35 gathered in Fairbault on May 8. Other meetings are to come but the ones already held have proven general interest.

Fully half of the oil men at the Rochester meeting made short, extemporaneous talks. Mostly they related things from their experiences, apropos of farm credits. In a box accompanying this article is a small compilation of gems gathered from those 14 talks on rural credits.

Review of Late Production News

AN INCREASE of 13,000 barrels in West Texas production brought the country's total daily average to 2,643,550 barrels for the week ended May 18, a gain of 18,800 barrels over the previous week, according to the American Petroleum Institute.

Crude oil imports totaled 278,571 barrels daily, a gain of 32,000 barrels over the previous week. Total new crude supply was 2,922,121 barrels for the week ended May 18, compared with new supply of 2,871,321 barrels the previous week, a gain in the past week of 50,800 barrels.

The week's largest changes in individual fields occurred in Pecos and Winkler counties, where output increased 7450 barrels and 5850 barrels respectively. Salt Flat in southwest Texas gained 4250 barrels, Texas Panhandle 2850 barrels, and Humble declined 2950 barrels.

Santa Fe Springs fell off 3000 barrels. St. Louis pool fell off 3700 barrels while Bowlegs gained 2050 barrels.

Texas, New Mexico, Louisiana

YATES field operators of West Texas will discuss a proposal to materially increase allowable production of their district at a meeting in Fort Worth June 10.

Demand for Yates crude reflects lowered production possibilities resulting from water encroachments on the Howard-Glasscock and Winkler county areas. It is forecast that the Yates field, which went on allowable production of 100,000 barrels daily May 10, may be increased to 130,000 barrels daily by July 1.

The Phillips Petroleum Co. reports a test in the western part of Pecos county, Texas, which is filled up 900 feet of sweet oil in a 12½-inch hole at 1367 feet. It is estimated good for 300 barrels as it stands. Company officials believe the test opens a new light oil field.

Henderson & Dexter's No. 1 McDonald test, in 18-20S-34E, Lea county, New Mexico, three miles northwest of The Texas Co.'s Lynch well, is standing 2500 feet in oil at 3547-3554 feet. The McDonald test found the pay 359 feet below the top of the brown lime formation as compared with 382 feet in the Lynch.

Skelly Oil Co.'s No. 1 Joyner, in 26-25S-36E, is now producing approximately 400 barrels daily at 3331 feet, as compared with its initial production of about 1200 barrels daily when originally drilled in several months ago.

Gulf Coastal Texas and Louisiana salt dome territory continues to undergo extensive wildcatting operations. The recent discovery by The Texas Co. of a new field near Port Neches, between Spindletop and the old Orange county development area, gave the Texas division a 1900 barrel well at the 3100-foot level. The Texas Co. controls most of the potentially productive acreage.

California

ACCORDING to a conservative estimate, California state daily average crude oil production was down 26,000 barrels to a total of 754,300 barrels for the week ending May 18, as against 770,000 barrels for previous week.

Most California oil operators seem determined not to let the cessation of proration in Oklahoma affect the California situation.

Santa Fe Springs is on the verge of obtaining commercial production from the Clarke sand, in the opinion of many operators. Four wells now cemented in this sand are due for early production, if the water shut off tests now being made continue to be successful.

Two large producers in this field added 15,000 barrels of new production, and several others of equal size are expected within the coming week. There are 274 projects heading for zones below the Meyer, including 40 wells that are standing idle; 207 are drilling; 137 are above or in the Buckbee and Nordstrum zone, and 70 below the 6000-foot mark.

Lawndale's severe water problem appears to be at an end as the result of the use of smaller pipe and a specially prepared German cement.

Long Beach had 6 new completions that failed to add materially to the total production of the field.

Standard Oil completed one well and is recompleting another well at Seal Beach.

Marland Oil Co. and Standard Oil Co. each has a well at Kettleman Hills that will be on production within 45 days.

Oklahoma-Kansas

POSSIBILITIES of a new pool in Payne county, Okla. were indicated by the Reiter-Foster Oil Co. No. 1 Watkins, in the center of the SW SE of 5-19N-1W. The well, a rank wildcat, made one flow from an unidentified pay in dolomite at 4837 feet. Tankage has been set to give the well a thorough testing.

A drilling well northeast of the Pearson Switch area is looked upon as a likely opener of another Wilcox area west of the St. Louis pool. The Independent Oil & Gas Co. No. 1 Rhodd, in the NW of 16-7-4, is drilling ahead of the Simpson at 4020 feet. The Simpson was encountered at 4012. The well is making 115 barrels of oil daily from the Simpson, Viola and Hunton lime. The latter has been cased off.

The British American Oil Co. wildcat in Edwards county, Kans., has been completed as a gas well, good for about 14 million cubic feet of gas per day. The well has been deepened to a total depth of 4570 feet, in hard sandy lime.

Wyoming, Montana

THE well on the Byron Lake structure, in northern Wyoming, which last week looked as if it might be an oil producer, has failed to be commercially productive on deeper drilling. In the Oregon Basin field the Cody Petroleum Co. has a good well 665 feet deeper than any other producer in the field, in what is known as the Amsden, or Madison formation.

The Vineland field in Pueblo county, Col., has been definitely discredited by the failure of the Continental Oil Co.'s test there, which has been abandoned at 1310 feet. This district has 20 operations under way, but no production materialized.

An interesting wildcat well is to be drilled on the Buffalo Creek structure, in Jackson county, northern Colorado, by the Midwest Refining Co.

Non-Metering Grease Pumps May Be Ruled Out

CLEVELAND, May 20

NON-METERING grease guns and pumps for injecting lubricant into automobile transmissions and differentials will have to go if the tentative specifications for grease-measuring devices are adopted at the annual conference on weights and measures to be held in Washington June 4.

All pumps will have to be equipped with meters that measure the grease delivered in pints, not in pounds. This will cause considerable expense to many companies operating greasing stations, oil men say. Metering equipment is considerably more costly than the non-metering type.

The tentative specifications were first presented to the conference on weights and measures last summer by Los Angeles county sealers.

F. S. Holbrook, Bureau of Standards, secretary of the conference, states that the new specifications, if adopted, would work very little hardship on companies that are now using "satisfactory" equipment. This is taken to mean metering equipment.

He states that most of the manufacturers who put out grease dispensing pumps equipped with meters, calibrate them at the factory to read in pints delivered.

Because of usage in the trade, the station operators, he says, quite generally translate pints into pounds and charge the customer for grease by the pound, notwithstanding that a pint is sometimes more and sometimes less than a pound, according to the kind of grease and its density.

According to one manufacturer of grease pumps, the comparative cost of non-metered and metered equipment is as $5 is to $12.

Companies using metering equipment can meet the requirements merely by stating the quantities of grease delivered in pints instead of pounds, according to Mr. Holbrook. There are three parties to the question who should be considered, he says; the customer, the motorist who buys the grease; the oil jobber or other operator of a greasing station; the grease manufacturer.

The customer, Mr. Holbrook admits, suffers little if any under the present method of greasing. Frequently he is charged a flat rate for a greasing job, regardless of whether it takes a pint or a gallon, a pound or 5 pounds. Anyway, the cost of the grease is trifling compared with assurance that his car has been correctly serviced and that he can drive it without danger of damage. Mr. Holbrook states that the move for change is based on a desire to get the business of dispensing grease on a more scientific basis.

The greasing station operator will have to change his price schedules in many cases, recalibrate his pumps, and he may have to buy new equipment.

From the standpoint of the grease manufacturer, Frederick L. Koethen, technical director lubricant works, Acheson Graphite Corp., Niagara Falls, N. Y., sums up the situation. He also brings out many points also from the greasing station operator's viewpoint. He says:

"In spite of being more expensive to make and heavier to move around, the device (the proposed new type of grease pump) will have little more accuracy if any than the ordinary type of grease pump. The weight per unit of volume varies greatly with the temperature, hence grease guns which stand exposed to the sun or wind will give inaccurate results either by the pound or by the cubic inch. Shortages due to exhaustion of supply in the tank will be more serious than are met with in the case of gasoline or other fluids because the supply tank is smaller and therefore is more likely to be empty and also because many of the transmission greases and oils do not flow down quickly from the sides of the container and the pump is likely to suck air even when it still contains an appreciable amount of lubricant.

"Fortunately for the peace of mind of the grease manufacturers and service station men, the committee (of the conference on weights and measures) suggests the possibility that local sealers of weights and measures might make the ruling that pumps such as are now being used are not measuring devices and therefore do not come under the terms of this specification. As a matter of fact, many station men and garages do not consider the pumps being used as measuring devices but merely as transfer devices to transfer the lubricant from the container to the gear housing.

"From the grease manufacturer's standpoint it would seem to be very inconvenient and perhaps impossible to guarantee the number of cubic inches of grease delivered to the customer in each drum, and to measure grease by the cubic inch instead of the pound would seem to be a step backward instead of forward."

OIL men are invited to an open conference to be held in Washington June 3, the day before the Conference on Weights and Measures, to consider the proposed grease pump specifications. Dr. R. P. Anderson, technologist American Petroleum institute, 250 Park avenue, New York, would like to know beforehand, names of oil men planning to attend.

Bowman Western Manager Of Parkersburg Rig

(By Telegraph)

TULSA, May 20.—A. M. Bowman, former purchasing agent for the Humble Oil and Refining Co., has been appointed western manager of the Parkersburg Rig and Reel Co., it is announced by John M. Crawford, president of the company. Mr. Bowman will maintain headquarters in Tulsa. He is widely known in the oil industry and is now president of the National Association of Purchasing Agents.

A. M. Bowman

Natural Gasoline Sampling And Gauging Discussed

LOS ANGELES, May 16.—Correct and incorrect methods of gauging and sampling natural gasoline were discussed by P. W. Hill, General Petroleum Corp., in a paper delivered at the May 9 meeting of the California Natural Gasoline Association here. Mr. Hill illustrated his paper with slides.

Samples taken under the pressure of the tank are the most accurate, the speaker said, adding that accuracy should be stressed because

gauging errors are usually cumulative and over a period of time will grow to important proportions. He indicated the need for a standard method for both gauging and sampling.

H. D. Prowell of Westcott & Greis, Inc., read a paper entitled, "Pilot Operated Back Pressure Control."

During discussion following this paper it was generally held that the proper method to be used in rating a compressor is by actual delivery of gas or air under a pressure of 30 inches of mercury and a temperature of 60 degrees Fahr. and that a correction should be made if the incoming gas has a temperature other than this.

President G. L. Ratcliffe announced that the annual election of officers will be held at the June meeting and appointed a nominating committee consisting of H. S. Cole, chairman C. D. Gard, J. W. Reed, J. J. Delaney and D. M. Wolf to nominate candidates for president, vice president and 17 directors.

20 More Refiners Promise Weekly Statistics

CLEVELAND, May 20.—The 81 companies representing 42.8 per cent of the country's refining capacity listed in NATIONAL PETROLEUM NEWS (page 39) last week as having promised to cooperate with the American Petroleum Institute in gathering weekly statistics on refinery operations, have been joined by 20 others. The companies now taking part in program own 56 per cent of the country's refining capacity.

The recruits are: Associated Oil Co., San Francisco; Atlantic Refining Co., Philadelphia; Butler County Oil Refining Co., Butler, Pa.; W. H. Daugherty & Son Refining Co., Petrolia, Pa.; El Dorado Refining Co., El Dorado, Kans.; Lewistown Oil & Refining Co., Billings, Mont.; Liberty Oil Co., Ltd., New Orleans; Lion Oil Refining Co., El Dorado, Ark.; MacMillan Petroleum Products Co., Signal Hill, Calif.; National Refining Co., Cleveland; Olney Oil & Refining Co.; Pasotex Petroleum Co., El Paso; Pierce Petroleum Corp., St. Louis; Producers Oil Co.; St. Helen's Petroleum Co., Ltd., Los Angeles; Shell Petroleum Corp., St. Louis; Simms Oil Co., Dallas; Standard Oil Co. of Indiana, Chicago; Terminal Oil & Refining Co., Texas City; Texas Petroleum Products Co., Somerset, Tex.; White Star Refining Co., Detroit.

In the list last week, La Salle Petroleum Co. should have been included and Cosden & Co. should have been omitted.

The list of companies promising cooperation in the gathering of statistics was given out by W. R. Boyd, Jr., executive vice-president of the American Petroleum Institute.

A. J. Callaghan Sells Stations; Continues Grease Business

A. J. Callaghan

CLEVELAND, May 18

A. J. CALLAGHAN, head of the American Oil Corp., of Jackson, Mich., one of the veterans of the Independent oil jobbing business, is selling out his marketing business to the Sinclair Refining Co., according to an announcement sent out by that company. It is only the gasoline end of the business that Sinclair is buying.

Mr. Callaghan continues the manufacture of lubricating oils and greases under the same name, American Oil Corp., he states.

The properties sold to Sinclair comprise 19 bulk stations and 75 filling stations, all in Michigan.

This year is the twenty-fifth since Mr. Callaghan started in business. In 1904 he began as a lubricating oil jobber. He got into the gasoline business later as the growth of the automobile industry made it desirable.

In 1915 he was one of the organizers of the National Petroleum Marketers Association, the first militant and active organization that fought the jobbers' battles for years. Until very recently Mr. Callaghan was an active association worker. When the American Petroleum Institute formulated its code of marketing ethics, Mr. Callaghan was a member of the committee that drew it up. He resigned from the committee only recently.

Survey to Say What Lands Sell as Non-Mineral

WASHINGTON, May 20. — The Hoover conservation program has been extended so that no public land will be sold as non-mineral until the Geological Survey has passed on whether it should be sold subject to reservation of oil and gas to the United States.

Of course the foregoing is to be read with the understanding that the acid test of the Geological Survey is not to be applied where there is not the slightest geological possibility of oil or gas being found, as for instance in granitic structures. Secretary of the Interior Wilbur, however, has named areas which are to be subjected to the test that cover most of the public lands in the United States.

These include all public lands in the following states: Alabama, Kansas, Louisiana, Mississippi, Nebraska, Oklahoma and Wyoming. The whole of the lower peninsula of Michigan is also reserved. The order and the list of reserved counties in the various states follow:

Arizona—Apache, Coconino, Mohave, Navajo.

Arkansas — Arkansas, Crawford, Franklin, Johnson, Logan, Mississippi, Scott, Sebastian.

California—Alameda, Colusa, Fresno, Glenn, Humboldt, Imperial, Kern, Kings, Lake, Los Angeles, Madera, Mendocino, Merced, Monterey, Napa, Riverside, San Benito, San Bernardino, San Luis Obispo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Tehama, Tulare, Ventura, Yolo, Yuba.

Colorado—Archuleta, Baca, Bent, Boulder, Cheyenne, Crowley, Delta, Dolores, Eagle, El Paso, Fremont, Garfield, Grand, Gunnison, Huerfano, Jackson, Jefferson, Kiowa, Kit Carson, La Plata, Larimer, Las Animas, Lincoln, Logan, Mesa, Moffat, Montezuma, Montrose, Morgan, Otero, Ouray, Pitkin, Prowers, Pueblo, Rio Blanco, Routt, San Miguel, Washington, Weld, Yuma.

Florida—Calhoun, Escambia, Holmes, Liberty, Santa Rosa, Walton, Washington.

Idaho—Bannock, Bear Lake, Bingham, Bonneville, Caribou, Franklin, Fremont, Madison, Oneida, Power, Teton.

Montana—Big Horn, Blaine, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Fallon, Fergus, Gallatin, Garfield, Glacier, Golden Valley, Hill, Judith Basin, Lewis & Clark, Liberty, McCone, Meagher, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone.

George Coyle Dies

By Telegraph

TULSA, May 20.—George Coyle, general superintendent and director of the Prairie Pipe Line Co., died May 18 in a Tulsa hospital after a long illness. He was 65 years old and had been in Prairie service since 1903. He is survived by his widow and by one daughter.

Economic Position of Natural Gasoline Industry Growing Stronger

By H. A. Trower*

(Presented at Eighth Annual Convention the Natural Gasoline Association of America, Tulsa, May 21)

THIS week marks the end of the 1928-1929 year of the association. The year was ushered in under the cloud of overproduction of crude oil. Misgivings were freely expressed as to the fate of the entire petroleum industry and of our own branch in particular. Yet the pessimism was not justified. The natural gasoline industry has passed through less prosperous years than the year just ended.

The same cloud of overproduction of crude oil still persists, but we face the future with the courage born of having stood the test. It is our task and duty to stand shoulder to shoulder with the leaders of the petroleum industry in their efforts to find an honest, forward-looking and constructive remedy for the economic evils of overproduction.

In past years the petroleum industry has been content with temporary remedies. It must be apparent to all observers that in the future we must be more far-seeing. It is our obligation to assure the American public a reliable supply of petroleum products at reasonable prices. A temporary solution will not fill the need in the years to come.

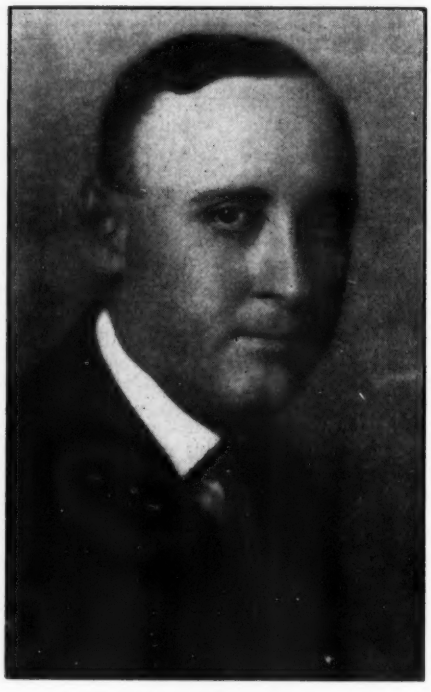
The industry is too large and too vital to survive the alternate periods of feast and famine which have characterized its past history. Excessively high prices and disastrously low prices for our products are equally harmful. For the good of the public and of the industry it is essential to establish a greater degree of security than has existed heretofore.

The natural gasoline industry is almost completely dependent for its prosperity upon the prosperity of the oil industry at large. Our own selfish interests invite us to cooperate wherever possible in all efforts to stabilize the oil industry.

During the year just ended, the natural gasoline industry has found its relative economic position strengthened. For a considerable interval natural gasoline commanded a higher price than U. S. Motor gasoline. From some quarters this has been the subject of criticism, but it is merely the functioning of law of supply and demand.

Statistics show that for the year ending March 31, 1928, natural gasoline comprised 11.52 per cent of the total motor fuel produced in the United States; whereas, for the year ending March 31, 1929, this percentage had declined to 11.05.

East of California this percentage declined from 9.98 to 9.13. The relative supply of natural gasoline declined 8.5 per cent during the year. Such a change in the supply was bound to be reflected by a modification of the price structure.



H. A. Trower

President of Natural Gasoline Association of America

In regard to this strengthened economic position of the natural gasoline industry we cannot sit idly by with the assurance that it will continue indefinitely. It is characteristic of our industry that the first symptoms of renewed prosperity attract new capital, which invariably results in increased production of natural gasoline and lower relative prices.

In addition, the relative supply of natural gasoline in California has increased slightly during the past year. Some evidence exists that the Pacific Coast is confronted with an oversupply of natural gasoline with the result that the surplus will find its way to Eastern and Mid-Continent markets.

Finally, the past year has witnessed the installation of numerous vapor recovery plants at refineries and the rapid extension of cracking processes. It is essential for the future of the natural gasoline industry that we continue unabated our efforts to widen the markets for our products.

The work of the association is carried on largely through committees. Naturally some of these committees are more active than others. However, all committees have shown splendid spirit when called upon to devote their time and attention to association problems. It is largely due to our committee members that the association has made the progress it has made during the past year.

THE recommendations made last year by the gas testing committee in regard to gas specific gravity determinations were put into effect. The cooperation of the United States Bureau of Standards was obtained toward the development and construction of an apparatus for determining gas specific gravity. This committee also very actively participated in the Southwestern Gas Measurement Short Course at Norman, Okla.

The research and educational committee has worked hand in hand with Dr. Brown. The research problems of the association have been carefully outlined and budgeted by this committee with the result that the work is now practically completed. The committee is seriously considering the advisibility of asking Dr. Brown to review his three years' work in book form in order to make the entire investigation more available to all interested parties.

The specifications committee has been very active during the year. Early in the year the doctor test was added to the official specifications for natural gasoline. Specifications for motor natural gasoline were adopted as of October 1, 1928. During the year the upper gravity limit

*Phillips Petroleum Co., Bartlesville; President, Natural Gasoline Association.

of Grade C natural was raised from 90 to 92 degrees A.P.I.

Specifications for aviation natural gasoline were also studied but action has been deferred. Perhaps the most important problem of this committee has been that of revising the specifications for the standard grades of natural gasoline. This problem has been referred to the technical committee for its recommendations.

The technical committee deserves especial praise for it has apparently worked hard throughout the year. Besides the assistance rendered the specifications committee, the technical committee has been largely instrumental in getting the Reid method adopted and has worked faithfully with the Bureau of Explosives to promulgate vapor pressure transportation limits which would satisfy the requirements of that organization and at the same time safeguard the interests of the natural gasoline industry.

This committee has answered numerous inquiries regarding the handling, storage and blending of natural gasoline. Through the chairman of the technical committee the natural gasoline industry had a voice in the conferences relating to the new federal specifications for U. S. Motor gasoline.

The sales managers committee has held several meetings during the year to discuss their particular problems. Perhaps the most important of their discussions have had to do with the effect of a revision of natural gasoline specifications on sales problems.

The plant operator's meetings committee under Dr. Lederer's leadership held a very successful plant operator's meeting at Ranger, Texas, on February 26, 1929. The meeting was attended by some three hundred field men.

The gas contract committee has made further studies of the advisability of standardizing on uniform gas contract forms, but the question is still open.

THE research program of the association as originally outlined is practically completed. Dr. Brown will summarize his year's work. During the year he has continued his investigations of the equilibrium volatility of motor fuels, the vapor lock problems and the vapor pressure relationships of motor fuels and natural gasoline. The effective volatility of motor fuels was perhaps the most important problem of the year.

In addition, I believe Dr. Brown has established some very valuable relationships between the motor fuel Engler distillation and the operating volatility of the fuel. We will receive tomorrow's progress report with great interest, and I am sure, profit.

At this time it is only fitting to state that the Association's research program has already accomplished much that was expected of it. A good proportion of the letters of inquiry received by the association have been directly attributable to Dr. Brown's work. By virtue of the contributions to a better knowledge of motor fuel requirements made possible by the research program, the natural gasoline industry has gained a position of respect that would have been impossible otherwise.

Two papers read before the Natural Gasoline Association of America convention are published in this issue. "Storage Should Hold 30 Days' Output" by G. M. Davidson begins on page 65. "Wise Building, Control and Service, Aid Proper Marketing," by A. T. Shere begins on page 70.

The research program has been characterized by a very obvious desire not only to expand the markets for natural gasoline wherever possible but also to limit those markets where further extension would result in public dissatisfaction. This attitude has created many friends for the natural gasoline industry.

Technically, the association has sponsored a research program seeking to define the maximum volatility permissible in satisfactory motor fuels. Heretofore, practically all investigators had worked to define the minimum volatility. The results of Dr. Brown's studies will certainly provide the natural gasoline, the refining, and automotive industries with the means of adapting their products to the requirements of the motoring public.

Two outstanding results of the research program are already evident. The first is that Dr. Brown has finally succeeded in "selling" the natural gasoline industry on the value of its own product. Indeed, we can picture the day when our industry will cease to shiver with apprehension when the epithet "casinghead blend" is whispered in our markets. Confidence in the actual value of a commodity is an essential of salesmanship.

The second result is the growing prestige of the natural gasoline manufacturer. There is a widespread feeling that our association is exceedingly well equipped to supply its members with the technical information necessary to assure the utmost satisfaction in the marketing of motor fuels. One very pronounced example of this growing prestige was the presence of Dr. Brown, Mr. Buchanan and Mr. Oberfell at the recent conferences concerning the new specifications for U. S. Motor fuel.

The association is, indeed, to be complimented on its progressiveness in sponsoring its research program and is to be congratulated on its good fortune in having placed the program in charge of so faithful and personable a man as Dr. Brown.

The important activities for the future are the continuation of the cooperative functions of the association. The research and educational committee will have before it the problem of making the best use of Dr. Brown's work.

As to the outlook for the immediate future, too much depends on the efforts of the oil industry to overcome the problems of surplus production to permit a definite prediction at this time. Regardless of the outcome of our present problems it can only be reiterated that varied markets is the chief requisite for our continued prosperity.

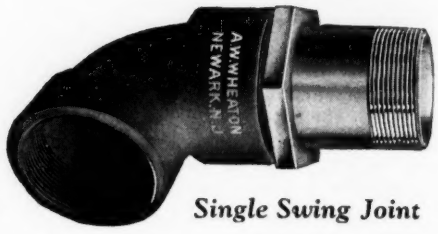
MUCH progress has been made in the diversification of markets for the products of the natural gasoline industry. Aviation natural gasoline has become a very considerable factor in its markets and in continued use has established its unquestionable superiority over ordinary fuels. Markets for liquefied petroleum gases are being rapidly developed. One very promising development of the year has been the continued trend toward more volatility in the average motor fuel as reflected by the semi-annual reports of the United States Bureau of Mines.

It is my opinion the natural gasoline industry can look forward to the future with the confident feeling that its opportunities have merely been sampled; that with diligence and foresight the industry will continue its prosperity; that by imagination, actively converted to deeds, the industry will find new and profitable markets for its products.

One very pleasant feature of the past year has been our relations with other cooperative agencies of the oil industry. First and foremost in this field comes the California Natural Gasoline Association. Although our own organization is a few years older we will have to look to whatever laurels we have gained or the Pacific Coast will wear them. The splendid feature of their rapid growth is the spirit of cooperation they have always manifested.

Last year it was my pleasure to introduce to the association, the Natural Gasoline Supply Men's Association. It was then only in the process of formation but we all recall the hospitality with which they supplied entertainment for the convention. The Supply Men's Association has again volunteered to see that entertainment is provided for this year's convention.

And in SWING JOINTS, *too*—



Single Swing Joint

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They're ALL BRONZE—*not only the Easiest Swinging but the* Longest Lasting —*and there's a size for every need*

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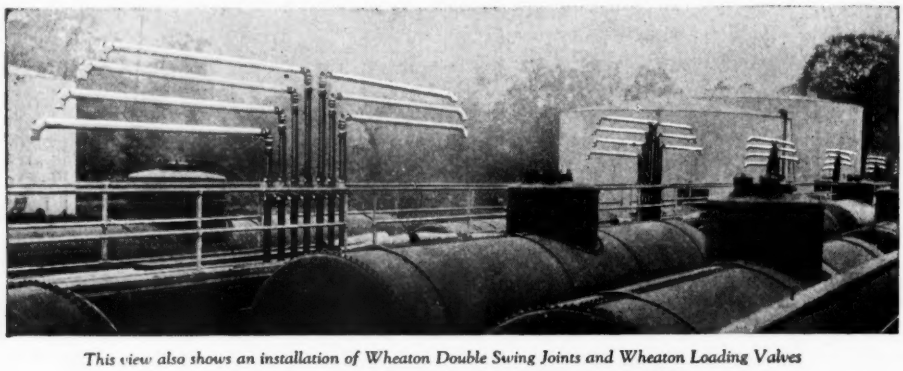
NOT only do Wheaton Swing Joints function with smoothness—not only do they reduce strains and leaks—they *continue* to do so long after ordinary joints have been cast into the junk heap. And this is due to the *material* from which they are made: Wheaton Swing Joints are ALL BRONZE—*tough, long-lasting* bronze, which *neither crystallizes nor corrodes.*

Just as Wheaton Faucets and Valves are famed throughout the industry for their *fine fit and finish,* so are Wheaton Swing Joints universally known as the finest *fitting* and the smoothest *swinging.*

Why not start *now* to *standardize* on Wheaton Swing Joints? You can secure *any size,* according to your need: 1", 1¼", 1½", 2", 2½", 3", 4"—large sizes for pipe lines, small sizes for curb pumps—single or double swing. Send for a sample, today. Give it your own test. If not entirely satisfactory, return it for credit or refund.



This view also shows an installation of Wheaton Double Swing Joints and Wheaton Loading Valves

A. W. WHEATON BRASS WORKS, NEWARK, N. J.

Empire Brass Mfg. Co., Ltd., London, Ontario, Canadian Manufacturers and Distributors

Wheaton

FAUCETS · VALVES · JOINTS · COUPLINGS · FILLERS · NOZZLES · FITTINGS

A.P.I. Should Revamp "Operating Plan"

By Warren C. Platt
EDITOR

IN THEIR consternation over the abrupt turndown by the Department of Justice at Washington, the directors of the American Petroleum Institute appear to have dropped entirely their proposed "plan for the national operation of the oil industry" or whatever title might have been given it. Yet in the fundamental idea of that plan is real salvation for the oil industry, one which is practicable and legal. Perhaps the directors, when they have recovered a bit from their fright when accused by the Department of Justice of a seeming desire to contravene the anti-trust laws, may get down to studying it again.

What the oil industry needs is accurate, detailed data on production, manufacture and consumption of its products and then an intelligent use of that information on such a scale as to aid every company in its individual operations.

This data the oil industry now has in fair character and quantity, but what the industry has not got is an intelligent use of that data, nor any practical understanding of it.

This plan of national operation that was so hastily discarded by the institute directors is nothing but an intelligent set-up, from the data now available, of what the oil industry can expect in consumption of its products a year in advance.

Sought To Make It Binding

If the directors had left it at that there would have been no legal objection to it and no trouble. The directors sought to make it an agreement, whereas all that can or should be done with it is to use it for educational purposes. Then, if the force of it is sound it will have great effect on individual conduct of individual business.

The oil industry direly needs, and at once, a national budgeting of its requirements. This can easily be done by the Institute. The gasoline tax figures from each state, with automobile registrations and business reports on conditions in general in each state, permit a most accurate prediction a year in advance for the consumption of petroleum products. This is being done to some extent by the larger oil companies today. NATIONAL PETROLEUM NEWS has for years made such a prediction on national gasoline consumption and has been able to reduce the error to an insignificant fraction of a per cent.

The oil industry should have not only a national forecast but also forecasts for each state and for as many products as it is possible to get reliable data for. At all events the industry can go to work at once with gasoline, its chief and controling product.

Include Number of Drilling Wells

This forecast should, so far as possible, be tied into the drilling of wells, and estimates as to the probable number of wells that should be drilled in given types of fields should be made up. Here the chances of error are great but nevertheless when this is broken down into drilling by fields, it should be accurate enough to serve as a fair guide to producers. At present no producer ever thinks that 2000 or 5000 more wells, or fewer wells, will produce an unfavorable or favorable price situation. This drilling forecast certainly should, under ordinary circumstances, be as accurate as the government's crop forecasts.

This forecast for expected growth should be for twelve months in advance and should be carried forward each month, that is brought up to date and projected a month further in advance.

One great trouble with the oil business has been that the executives of each company have refused to recognize that the limited increase in gasoline gallonage each year—limited by the number of new cars and the use of cars—applied to them just as much as to the industry at large. Each company, when it came to making up its own sales and manufacturing plans, took last year's performance, which, say, was 15 per cent gain, though the country increased only 12 per cent. Refusing to see that the extra percentage was obtained by price cutting or other unprofitable tactics, it decided to "speed the boys up, increase the advertising, get more 'pep' into the outfit and go after a 25 per cent increase this year." Many a company has figured just this way, disregarding entirely the natural increase in gallonage, which would be limited.

9 Per Cent Increase This Year

Conservative figures on gasoline consumption the country over this year are 8.5 per cent to 9 per cent increase. It will probably be larger in some states but smaller in others. How many of you reading this are planning on a greater increase than that? If so where are you going to get the business? You will have to take it off the other man, and if he does not like to lose it he probably will fight and a price row will be the result.

We are not arguing necessarily that a company should not grow any faster than the natural increase in gasoline gallonage in its district, but we do say most emphatically that, when it tries to grow faster than that, it faces a fight. If it knows that, is ready for the fight and can win and still make a satisfactory profit, then go to it. But most company executives don't anticipate a fight and they pull a sad face and talk about their price-cutting competitors when they run into a row which primarily is of their own making, even though the company expanding had not been the first to cut the price.

Would Be Danger Warning

A national forecast of probable oil business, by states, issued by a competent authority such as the American Petroleum Institute, will always be a warning to every oil executive, big and little, that if he gets too greedy there may be trouble. And if he does get too greedy the facts are instantly available in the details of these same gasoline tax reports from which the forecast will be largely made. The big company will be checked up just as quickly as the small company.

This dissemination of information is entirely legal, in fact, it is what modern civilization is striving to increase.

The institute directors can well return to their national plan, but refrain from doing foolish and possibly illegal things in connection with it. A national forecasting is what the industry should have and the industry has a right to demand it from the institute.

SOME of the folks who are trying to get Congress to put a tariff on oil are weakening their case by the talk they are indulging in. Rep. Tom McKeown, of Oklahoma, for instance, is quoted in the daily press as having said in a speech in the house that there is no relationship between the price of crude oil and gasoline—that the wicked "interests" import foreign oil, depress the price of domestic crude and keep gasoline sky high. Old, familiar, trust-baiting stuff.

First of all, he is wrong. There is no fixed relationship, to be sure, but there is a connection between the price paths traveled by the raw material and the finished product. They have been charted repeatedly. Secondly, the tariff champions forget that the public makes no distinction between oil companies.

If they keep telling the public that the oil industry is guilty of price gouging, no matter how much they refine the statement by saying that "big" companies are doing it, the public will say, "If the oil business is so wicked, why should it be protected?"

If that isn't true—if any one of the millions of consumers whose sole interest in the matter is that of buying gasoline can be found who thinks of the industry as anything but one big happy family, just have me paged any noon at the K. C. Waffle House and let me know.

* * *

Only general ennui was aroused by the assertion of Tulsa's county attorney a few days ago that he would immediately stop all hoss and dog racing in the vicinity of the city. This formal offer is made every time the local pony and dog rinks are started up. Racing is well patronized and the meets run to their conclusion in spite of the threats made by the constabulary.

The "donation" system is employed. The patron buys a ticket, pari-mutuel system, and the pasteboard carries the declaration that the money paid for it is to support and encourage the breeding of fine horses, or dogs. If the animal of his choice finishes ahead, the development of that particular critter has been carried far enough and by way of celebration a dividend is declared.

The amount of the dividend depends upon the encouragement given to the development of other horses or dogs in the same race. It is all very nicely worked out and is as fine a legal distinction as some of the interpretations of the anti-trust laws.

* * *

Dr. H. C. George, professor of petroleum engineering at the University of Oklahoma, and J. D. Thomson, geologist and petroleum engineer, recently opened an office at 704 Colcord Building, Oklahoma City, to carry on a business in leases, royalties, property examinations, appraisals and valuations of oil and mining properties. Dr. George will devote his three months vacation each summer to the business. Mr. Thomson formerly was in the employ of the Pure Oil Co. and the Shell Petroleum Corp.

Dr. George informed us last week that his graduating class in petroleum engineering this spring numbers 20; that the Humble Oil & Refining Co. is to give employment to 10 of them. His students have uniformly been good "hands" for the oil companies.

One of the outstanding young executives of the Mid-Continent is J. R. Freeman, assistant manager of production of the Skelly Oil Co., Tulsa. Prominent characteristic: An infallible memory for operating details. Principal hobby: Golf, which he plays monthly or whenever he finds time

This fact he modestly lays to their having been raised in an oil state.

* * *

Born: To Mr. and Mrs. W. D. Emery, a daughter, first child. Mr. Emery is with the firm B. V. Emery Co., agents for a number of field and refinery supply lines. Formerly he was manager for the Foxboro Co., Inc.

* * *

A trip made to Seminole recently by your realtor to see what the well dressed truck driver is wearing enables us to report that red hats predominate.

* * *

Born: To Mr. and Mrs. A. T. Scherer, Tulsa, a girl. Mr. Scherer is in charge of natural gasoline sales for the Sinclair Oil & Gas Co.

* * *

Harry W. Young, since 1923 Tulsa office and credit manager of the Bridgeport Machine Co., has resigned from that company to become vice-president of the Hubbard Drilling Co. He will be in charge of contracts and detail. The Hubbard Drilling Co. is headed by C. H. Hubbard, onetime Tulsa mayor.

* * *

W. M. Welch, now practically retired from the oil business, was a recent visitor in Tulsa. The one-time head of the Tidal Refining Co. and later independent refiner now lives on a citrus fruit farm near Donna, Texas, in the Rio Grande Valley.

* * *

Bulletin: The license tag war between Oklahoma and Kansas has been ended, or at least, temporarily halted. Each side has returned the prisoners of war, held for crossing the state line without the proper license on commercial vehicles.

* * *

This week's outstanding wager: T. B. Slick with citizens of Jones, Oklahoma County, Okla. Mr. Slick to throw a barbecue party if he fails to spud in a test in that vicinity by August; the citizenry to entertain him at a watermelon party if he does.

* * *

Purchase of Burbank, Okla., prop-

erties of the Lewis Production Co. by the Vacuum Oil Co. gives this big lubricating oil company command of the major part of 1,800 barrels net daily production. The Lewis had partners on several of the 14 quarter sections which were included in the deal. The Lewis company plans to carry on in development of other holdings.

It has been quite a company to specialize on one thing at a time. Whenever it gets its hands on something that looks good, that thing becomes prior business until the possibilities have been exhausted. H. J. Parker, of Pittsburgh, president of the company, was raised in the times when a company's growth came from earnings and he is still old-fashioned that way.

George Parker, his son, lives in Tulsa and manages the company. Neither appears in the public prints much, partly because they evade the issue, as several reporters have found while chasing them over the steppes of Oklahoma with camera.

* * *

R. Van A. Mills, formerly of the U. S. Bureau of Mines and more recently of the editorial staff of the Oil & Gas Journal, Tulsa, has been made manager of the producing department of the Marland-Hudson's Bay Oil Co., operating in the prairie provinces of Canada. Van will live in Edmonton, Alberta. He succeeds Glen A. Ruby.

* * *

Ten Years Ago

(From National Petroleum News, May 21, 1919)

Oil men meet with Natural Gas Association in Cleveland. Tokens of appreciation given to Mark L. Requa, war-time oil director of the fuel administration, and to T. B. Gregory, gas director. Addresses made at oil session by Franklin K. Lane, secretary of the interior; R. L. Welch, secretary of the American Petroleum Institute. Judge C. D. Chamberlin presides.

Rules, regulations and orders governing war-time conduct of the oil industry set aside on May 15 by Fuel Administrator Garfield.

Charles D. Norton, Frank Haskell and Axtell J. Byles elected directors of Tide Water Oil Co.; Robert McKelvy made third vice-president.

Moore Oil Co., Cincinnati, becomes subsidiary of Ohio Cities Gas Co. (Pure Oil Co.).

R. A. Sperry, Gypsy Oil Co., becomes assistant to W. K. Gordon, general manager of Texas Pacific Coal & Oil Co.

Sinclair Oil & Refining Co. buys 33-story Liberty Tower building, Nassau and Liberty streets, New York.

Gas and Air Lift in Oil Production

In 51 articles since the first of 1928 NATIONAL PETROLEUM NEWS has told of the use of air, gas and water in increasing oil recovery, application methods, and of restoring pressure to old pools.

Here they are for your file reference:

1929

Automatic water supply for gas lift May 1, p. 64
Alcohol keeps gas lift lines open March 13, p. 66
Repressuring results in Bradford Feb. 13, p. 62; Feb. 6, p.51
Better recovery, cheaper lifting sought Feb. 13, p. 35
Pulsing air-gas cuts repressuring hazards Jan. 30, p. 60
Sante Fe Springs gets repressuring plan Jan. 9, p. 40
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Payne County Wildcat May Herald New Oklahoma Pool

By John Power
N. P. N. STAFF WRITER

TULSA, May 18

OKLAHOMA'S most closely watched wildcat at present is the Reiter-Foster Oil Corp. et al. No. 1 Watkins, a Wilcox test in the center of the SW SE of 5-19N-1W, near Orlando, Payne county.

A close second in general interest is the Independent Oil & Gas Co. No. 1 Rhodd, another Wilcox test in the Pearson Switch area, a township west of the St. Louis pool.

To keep these two important wells company the Oklahoma City area has two wells which are rapidly approaching the deep pay now occupied in solitary fashion by the Indian Territory Illuminating Oil Co.-Foster Petroleum Corp. discovery well.

The Reiter-Foster test is in the extreme northwest portion of Payne county. The well has shown itself a producer of some sort, having made one vigorous flow for a few minutes before being shut in to await the erection of storage. Considerable doubt exists as to the nature of the horizon from which the well made its oil.

The two formations which are the principal nominees are the Misener and the Simpson. A section of Misener, which showed both gas and oil when cored, was encountered in the well at 4772-92. The tools passed through this sand into hard dolomite, a formation which continued to 4837 feet. At that depth the formation softened, and the well filled rapidly with oil. The tools were pulled out of the hole, and the well shut in. After connections had been installed, a short test was made with the well turned into the slush pits, during which time it flowed vigorously. Four thousand barrels of tankage have been erected in order to give the well a thorough test, an event which will probably come to pass before this is printed.

It is not known whether or not the oil carrying formation at the bottom of the hole is another Misener sand section, or whether it is the Simpson. If it is the latter, the Viola lime is missing under this well, though present in a Wilcox dry hole a half mile due east. The absence of the Viola, in geological opinion, would indicate a condition such as existed at Garber, with the Viola lime pinched out by the upthrust of the earlier formations.

The well is being drilled by Reiter-Foster on a community block of 640 acres covering the south half of 5-19N-3W, and the north half of section 8, in the same township. Associated with Reiter-Foster, which has a 31¼ per cent interest in the block and the well, are the Marland Production Co., with an 18¾ per cent interest, the Twin State Oil Co., with a 25 per cent interest, and the Prairie Oil & Gas Co. with a 25 per cent interest. Acreage surrounding the block is mostly under lease, the majority of the larger companies being represented by holdings of various sizes.

In the event the well is a failure at both the present level and in the Wilcox, it is planned to plug back to the upper Misener and shoot the pipe. The Reiter-Foster No. 1 Kinnamon, the Wilcox failure a half mile east of the drilling well, is pumping about 20 barrels daily from that formation.

THE Pearson Switch area, which has been producing from the Hunton lime for some time, is undergoing something of a drilling campaign. The Independent Oil & Gas Co. No. 1 Rhodd, in No. 1 Latimer which is now producing from the Simpson in Sec. 19, is giving indications of a possible new Wilcox sand area. The well, which is alternately drilling and swabbing, produced 115 barrels in the past 24 hours, 67 of which came from the Simpson and Viola, and the remainder from behind the pipe, from the Hunton lime. The well was swabbed but five hours, and at the end of that time the hole still contained 600 feet of oil. Top of the Viola was reached at 3925, and the top of the Simpson at 4012. The well is drilling ahead at 4020.

A gas sand at 6070-6120 not encountered in the other wells drilled to that depth in the Oklahoma City pool yielded 25 million cubic feet of gas per day in the Sinclair Oil & Gas Co. No. 1 Stampner, NE SW NW of 30-11N-2W, about half a mile southwest of the discovery. The gas is being killed preparatory to drilling the well deeper. The other well which is fast approaching the deep pay is the Mid-Kansas Oil & Gas Co. No. 1 Fortson, which is drilling in shale at 6133 feet. The Mid-Kansas well, which is a mile west of the discovery well, did not pick up the gas sand encountered in the Sinclair's test.

Production from the Indian Territory Illuminating Oil Co.-Foster Petroleum Corp. No. 1 Parke, the pool's opener, is rocking along on an even keel. Daily gages stay pretty close to 2800 barrels of oil, with between 300 and 400 barrels of water.

Lacking any spectacular features for the past week, Kansas went along under the impetus given things in that state by the strikes of the past half year. The Valley Center area of Sedgwick county, is now making more than 30,000 barrels daily, the per day average for the week ending May 16 being 30,369 barrels from 60 wells. Cumulative production from the field as of the same date was 2,230,854 barrels.

What appeared for a time as a producing well several miles northwest of the field is now rapidly deteriorating into a lost hole. The Ted Washabaugh test, in 9-19S-3W, which had a strong showing in the Simpson has two strings of collapsed pipe and a swedge stuck in the hole. It is thought that a twin well will be drilled.

The Gypsy Oil Co. No. 1 Williams, the well which opened a new Wilcox pool in southern Sumner county, Kansas, and northern Grant county, Okla., is holding up well at around 1600 barrels. It had a peak of better than 1800 barrels daily, but soon declined from that to the present figure. As no increase in production was obtained from the last foot or two drilled, it is probable that the present total depth of 4884½ will be as deep as the well will go.

THE Wildcat of the British American Oil Co., which a week ago was calling attention to Edwards county in the western part of Kansas, is now definitely considered a gas well. After making six million cubic feet of gas and spraying some 25 barrels of oil daily from the Gorham sand topped at 4543-45. The gas production soon dropped to three and a half million cubic feet per day, with the oil remaining about the same. Deepened to 4547 the well again made six million feet of gas, and 35 barrels of oil from a sandy lime. After passing through a shale break at 4556-68, the

well increased the gas to 14 million cubic feet per day, with no increase in the amount of oil coming with the gas. It is believed that the well will be shut in as a gasser.

Notes on the Week

The Indian Territory Illuminating Oil Co.-Foster Petroleum Corp. gas well in the SW NW of 19-11N-2W, Oklahoma City area, which had previously been completed as a gas well good for 55 million cubic feet per day in the Tonkawa sand is to be deepened after the gas has been killed.

* * *

The Houston Oil Co. No. 1 James, in the NE NW SW of 17-7-4, is swabbing and flowing about 1000 barrels daily from the Viola lime, topped at 4054. The oil is 40 degrees A.P.I. gravity.

* * *

Indian Territory Illuminating Oil Co. No. 1 Porter, a wildcat drilling in the NE of 25-6-7, has a show of gas in what is thought to be the Cromwell at 2842. A Halliburton tester will be run.

* * *

An Osage county wildcat is shut down to await the building of tanks. It is the Nath-Jones No. 1, in the SE SW of 2-26N-8E, which has a show in a chat streak topped at 2282. There is 500 feet of oil in the hole.

* * *

With the proration lid lifted in the Seminole area, the production showed little inclination to climb. The production for May 18 of 384,236 barrels from 1921 wells is but 6,678 barrels more than for the same period a week ago from 1906 wells, under proration. It is thought likely that some 5,000 barrels per day may be retarded as a result of the torrential rains which have been the vogue in Oklahoma weather of late.

* * *

Sinclair Pipe Line Co. is laying a four-inch line, about five miles long, to connect its general Seminole system with the Asher pool in the central part of Twp. 6N-4E.

* * *

Second Producer at Asher

(By Telegraph)

TULSA, May 20.—Proving the Asher area as one not to be disregarded as a future pool, the Prairie Oil and Gas Co. south offset to the Simms Oil Co. discovery well in 19-6N. 4 E is flowing at the rate of 3400 barrels daily from the Viola lime at 3642-72 feet. This is the first of the crop of wells started soon after the completion of the Simms discovery and is the second producer in the field.

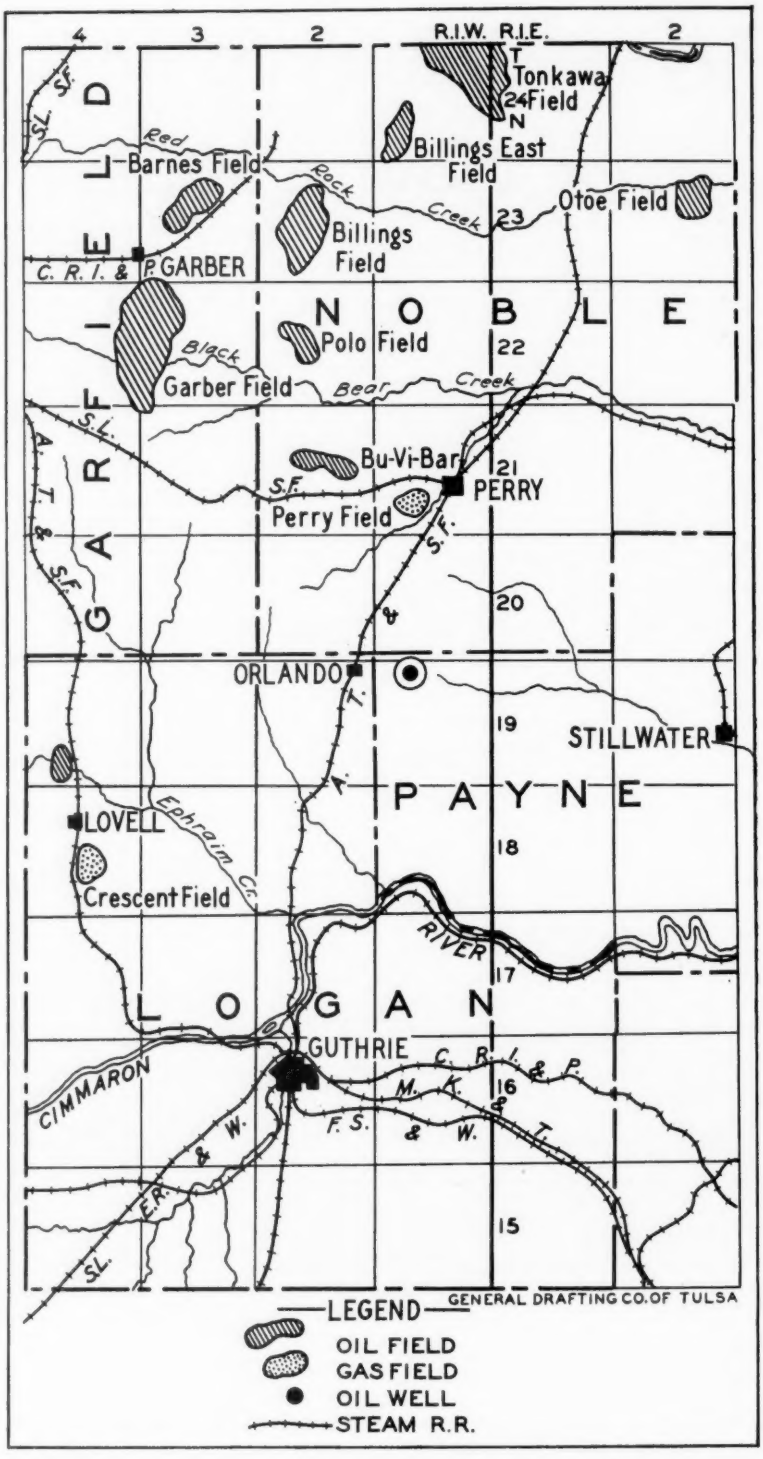
* * *

TULSA, May 18.—Final plans for the safety contest in the Greater Seminole district under the auspices of the Petroleum Safety Society, Tulsa, the Safety Section of the Mid-Continent Oil & Gas Association, Tulsa, and the Petroleum section of the National Safety Council, Chicago, have been announced by Don Wallace, safety director for the Mid-Continent Oil & Gas Association.

The contest will start at midnight May 31 and run until midnight August 31. The award in each of the various classes will be made on the Frequency Rate which shall be the number of lost time injuries occurring per million hours worked.

The classes will be as follows: Production, two divisions; Gasoline, two divisions; Pipe Line, two divisions; Transportation, one division; Construction, two divisions, and Contractors, two divisions.

Entries must be made on or before June 1. The contest will cover the area commonly known as the Greater Seminole. The judges will be Mr. Wallace and Ray E. Miller, secretary, Natural Gasoline Association of America.



The general area around the Reiter-Foster et al wildcat in Payne county, Okla.

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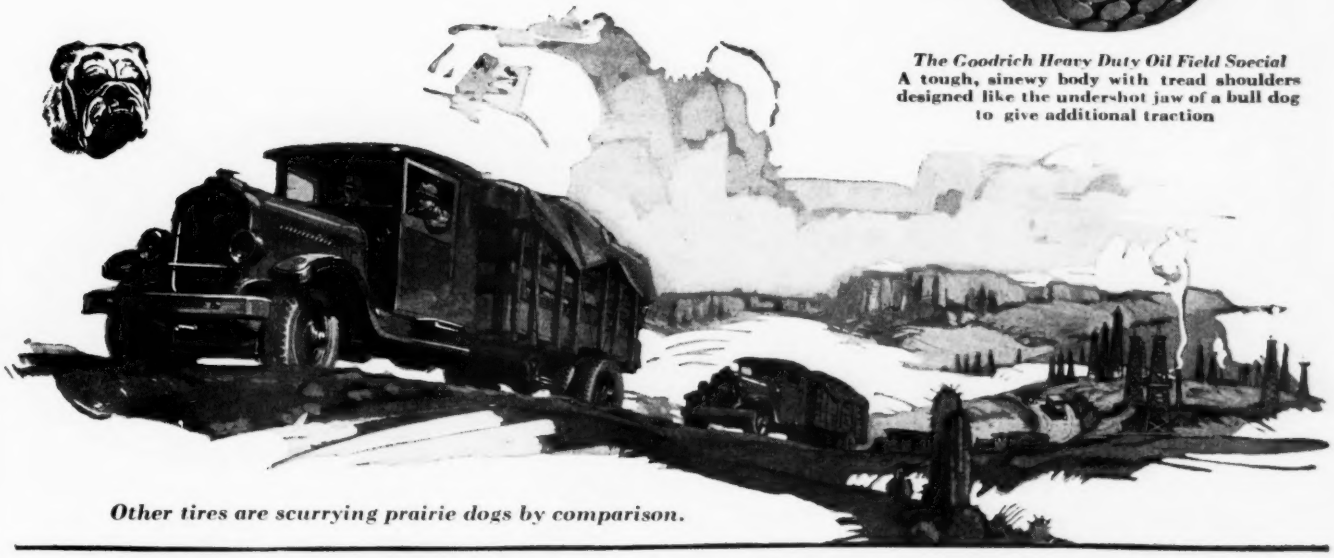

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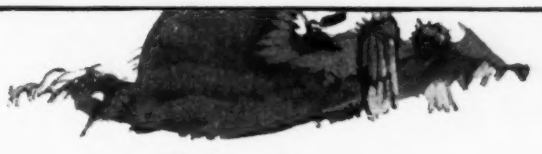

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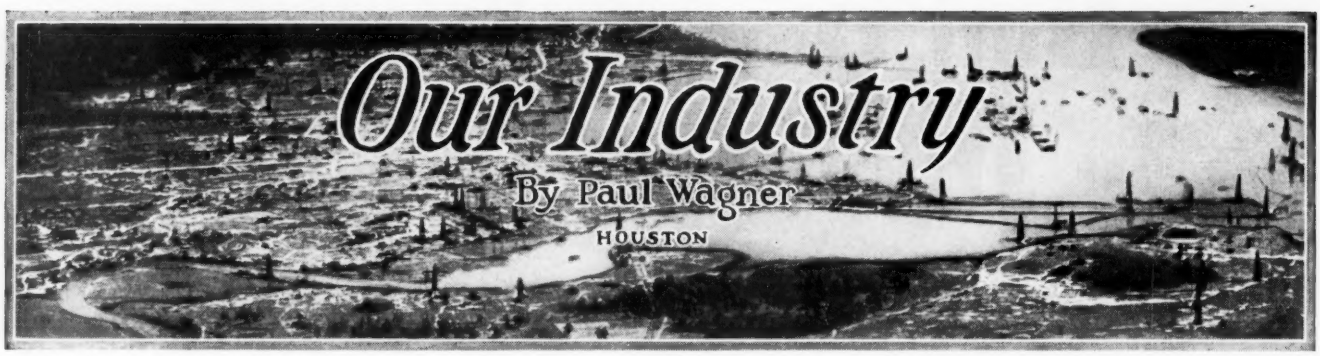
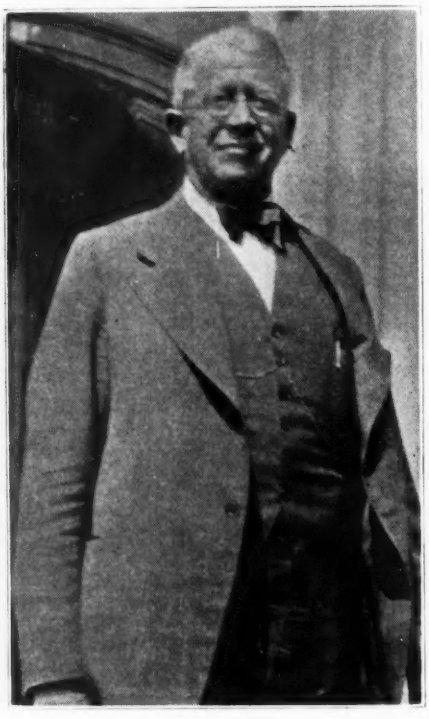


Thomas A. O'Donnell, formerly president of the American Petroleum Institute and later chairman of the board of the California Petroleum Corp., before its absorption by The Texas Corp., divides his time between Los Angeles and Palm Springs, Calif. Mr. O'Donnell is taking life easy after many years in the industry's service but he never seems to get sufficiently inactive to be described as "quieting down."



T. A. O'Donnell

* * *

Glen Rubey, formerly vice president large prospective acreage in Canada and general manager of the Hudson's Bay-Marland Co., is the new president of the Nordon Corp., owning producing properties in the United States and large prospective acreage in Canada.

C. G. (Neil) Willis, formerly assistant to Dr. W. A. J. M. van Waterschoot van der Gracht when "the doctor" was land and geological director of the Marland Oil Co. of Delaware, represents the Nordon Corp. in the United States. The title of Mr. Willis, who now maintains offices in the A. G. Bartlett building, Los Angeles, is that of managing director and president of an American subsidiary known as the Nordon Oil Corp. of Delaware. R. B. Moran, widely known geologist and petroleum engineer of Los Angeles is also a director.

Associated with Mr. Rubey in Canadian operations will be Ben Hake, formerly chief geologist of the Hudson's Bay-Marland Co. Canadian financiers and others heavily interested in the Nordon Corp. include S. R. Smith of Vancouver, Major General D. M. Hogarth, Colonel McAlpin, E. E. Campbell and Mackenzie Willims.

The Nordon Corp. has issued 3,000,000 shares through Stobie, Forlong & Co., Toronto, out of a total authorization of 5,000,000 shares. In addition to owning extensive prospective oil lands in the United States and Canada holds title to producing royalties in the Los Angeles Basin fields and west Texas.

* * *

Random thoughts and actions at 40 on occasion of a birthday anniversary away from home: breakfast over, a grist of material for this page before making calls and filling appointments . . . an hour with Charles S. Jones, vice president and general manager, Rio Grande Oil Co., Los Angeles . . . unable to accept invitation to fly to Phoenix, Arizona, and return . . . returning to hotel, cross path of Early Deane, now of Hollywood but formerly drilling contractor in Texas and Arkansas . . . no mail or telegrams . . . how time flies, only 20 minutes to join "Brick" Elliott as core barrel manufacturer's guest at Rotary club luncheon . . . early on appointment, so attempt to telephone J. Elmer Thomas, Fenner & Beane's Fort Worth analyst, at University Club. . . . "Tommy" hasn't arrived on morning flight from San Francisco . . . "Brick's" secretary hands over newspaper . . . what's this, names of successful persons born on same day . . . Ebenezer K. Dexter, philanthropist . . . Alice Cary, author and poet . . . Martha Finley, author . . . Charles F. Brown, humorist . . . John Clark Ridpath, historian . . . Harvey Fisk, financier . . . hard record to live up to . . . luncheon with "Brick," then to University Club where Thomas is found . . . regrets that telegraphed invitation of previous night could not be accepted . . . an hour of visiting before calling on A. C. (Cy) Rubel, chief petroleum engineer at Union Oil Co. of California . . . back to hotel past office of C. G. (Neil) Willis, geologist and engineer, who used to be Dr. van der Gracht's assistant in the Marland companies . . . out, so left card where he could call. . . . "Jim" Jenkins telephones dinner invitation at Biltmore, after which spends evening with general production manager of Associated Oil Co., down from San Francisco . . . both of us off to our respective "hay piles" at midnight and no evidence of these things, whatever they may be, sometimes referred to as "dangerous forties."

* * *

Two wiry youngsters in their late sixties met in front of the Los Angeles Biltmore the other day. One of them, H. A. Melat, production manager of the Gulf Production Co., Fort Worth, thought he recognized the other. In the conversation that ensued the stranger asked Melat if he'd ever been in the sage-brush country.

H. A. Melat

"Yes, lots of it, in Texas," he replied.

"Nope," said the other, "I can't accommodate you; I rate from Idaho."

The pair talked on for a while, Melat developing by inference that the stranger was a man of some importance in mining or industry of the great northwest. He, too, was stopping at good hotels and visiting his family, who spend a considerable time among the dollar grabbers in California.

Speaking of dollar grabbers Melat quotes the stranger as saying:

"First year they get you. Then the next year you watch 'em get the other fellow. The third year you take it up."

* * *

D. F. Beaman, vice president and general manager, and Thomas E. Booth, secretary-treasurer, of the Sexton Corp. of Texas, have opened offices in the Post-Dispatch building, Houston. The firm has specialized for years as contracting engineers.

* * *

W. R. Hamilton of Tulsa, widely known in geological circles of the southwest, has returned to the Mid-Continent after a California trip. While on the Pacific Coast he attended a reunion of Stanford graduates at Palo Alto.

* * *

W. L. Greiner of Denver has succeeded T. A. Pedley as treasurer of the Midwest Refining Co. Mr. Pedley's resignation was recently announced. Mr. Greiner was formerly general auditor of the Midwest. C. J. Barkdull, a director of the Standard Oil Co. of Indiana, has been elected to the directorate of the Midwest.

* * *

L. S. Barnes, California oil operator, has purchased the Beverly Hills estate of Frances Marion, screen writer, and her late husband, Fred Thompson, for consideration announced as $540,000. Mr. Barnes is president of the Elbe Oil Land Development Co.

* * *

Writing from California, especially for the information of the Texas division of Mid-Continent territory, the conductor of this column wants to repeat the remarks he made at a dinner given by W. R. (Dick) Guiberson the other night in Los Angeles. The occasion was a farewell party to the "Wildcat Committee" of the California Oil & Gas Association, and a few other friends, preliminary to Mr. Guiberson's removal to Dallas for a year. While there he will share the active management of the Guiberson Corp., oil equipment manufacturers, with his brother, Nat G. Guiberson. S. A. Guiberson, Jr., president of the corporation, will continue to live in Los Angeles.

At the remarks stage of the dinner at the Los Angeles Country Club, the writer took pleasure in telling the Californians that "what must be your loss is our (Texas') gain." None who knows "Dick" Guiberson can dispute that; and while the phrase may be trite it is, nevertheless, true. Mr. Guiberson was not permitted by the "wildcats" to resign from their committee. He is to remain their "chief clawer," whether he can be regularly present among them or not. His removal to Dallas was announced as effective May 15.

W. R. (Dick) Guiberson

* * *

Two of the four shown in the accompanying group picture have their names engraved on the golf cup donated by Edwin Higgins, managing director of the California Oil & Gas Association, for play by the organization's "Wildcat Committee." The two mentioned are Ward B. Blodgett, production head of the Chanslor Canfield-Midway Oil Co. (Santa Fe railroad interests), at the left, and Harry W. Maxwell of the Sun Oil Co., Los Angeles, on the right. Mr. Higgins is shown with his arm on Mr. Maxwell's shoulder. The younger member of the quartette is R. A. Broomfield, Jr., engineering and geological student, who will join the Barnsdall Oil Co., of California, of which his father is president, after his graduation this year. Incidentally, Mr. Broomfield, Sr., is also president of the California Oil & Gas Association.

Rather stringent rules have been set up for the capture and retained possession of the Edwin Higgins cup. It must be won three times before absolute rights to it pass to any individual, as originally provided by the donor. More recently steps have been taken to prevent anybody ever getting it, according to Harry Maxwell, who now has a credit of one and a third victories to his credit. Maxwell, Blodgett and Mark D. Woolery of the Ohio Oil Co., Los Angeles, tied for low net in a recent play, each thereby gaining "thirds" to their credit.

The names of A. S. Hayes, General Petroleum Corp., and W. W. Copp, Marland Oil Co. of California, appear on the cup twice, because of full low net victories. Woolery and Maxwell each have credits of one and a third times, fractions resulting from ties for low net.

Individuals with single victories to their credit are W. L. Stewart, president, Union Oil Co. of California; W. R. Guiberson, of the Guiberson Corp., and Joseph Jensen of the Associated Oil Co.

Clarence E. Olmstead, vice president and general manager of The Texas Co. of California, has a half victory to his credit, divided with Ward Blodgett. Counting his earlier "half" and his present "third," you figure out Blodgett's credit. My time's too valuable for that kind of fractions.

Incidentally, (Shu-s-s-s-h) Harry Maxwell insists that the engraving on the cup—at so much per letter—has already reached more than double the original cost of the trophy. In these days of conservation, how some of the boys can watch upkeep.

Left to right, Ward B. Blodgett, R. A. Broomfield, Jr., Edwin Higgins and Harry W. Maxwell

Deep Wells in Santa Fe Springs Threaten Restriction Plans

LOS ANGELES, May 17

PRESENT plans to hold California production within the desired limits may be jeopardized if four wells now apparently successfully cemented in the Clarke zone at Santa Fe Springs should prove commercially productive.

If any large proportion of the 70 wells now drilling below the 6000-foot mark find this new productive sand, apparently the choice will be either to make another cut in the allowed production or permit the total output to be boosted.

The four critical wells at Santa Fe Springs are the MacMillan Oil Co.'s No. 2, which has set a string of 6-inch casing at 6990 feet and is bottomed at 7054 feet; the George F. Getty, Inc., No. 27, which is standing cemented above the upper Clarke; Richfield Oil Co.'s Elliott No. 2, cemented at 7450 feet; and General Petroleum Corp.'s S. F. 228, which has what appears to be a successful water shutoff, with 4¾-inch casing set at 7480 and bottom of hole at 7674 feet.

These last two wells had temperatures in excess of 200 degrees F. to combat. General Petroleum engineers used ice water to mix with the cement and to cool the hole before cementing. They also pumped in aqua jel to thin the ordinary rotary mud. Tests are to be made in these wells within the coming week.

Several wells in the O'Connell zone that have been allowed to flow through an unprotected hole have sanded up. The more important of these are the Getty No. 19, the initial producer from the O'Connell sand, and Universal Oil Co.'s Blanchard No. 7, the largest producer from this zone. Getty No. 19 has always had a heavy cut that is thought to originate in a leaky shoe, and it is intended to attempt a recement job here and to run an oil string in the Blanchard No. 7 in an effort to clean them up.

Associated Oil Co. has been swabbing for several days in its two outpost wells, Clarke No. 2, on the western flank, and Dallugge No. 7, on the north edge. These wells, which are cemented at 7800 and 7550 feet, respectively, with several hundred feet of air sand below the shoes, have been making a little water and it is feared that the cement jobs were failures, although the water may be coming from the sand itself.

Many operators at Santa Fe Springs support the theory that these lower sands contain inherent water sand. If true this condition would explain many of the unsuccessful attempts to shut out the encroaching water.

Wilshire Annex Oil Co. and George F. Getty, Inc., shared honors at Santa Fe Springs this week, as far as commercial production was concerned. Wilshire's Koontz No. 4 came in for 9000 barrels of 33 degree gravity oil from an approximate depth of 6700 feet and Getty obtained a nice producer from its No. 25, which came in for 5808 barrels of fairly clean oil from 6725 feet.

As the excess pressure in this well eased off the production jumped up to 6750 barrels, with every indication of going higher. In many instances where the casing pressure is very strong the initial flow is considerably less than a few days later when the well has had a chance to clean up. In addition to the oil, the Getty well was flowing 10 million cubic feet of gas through the traps and one million cubic feet was escaping into the air.

Production from the deep sands at Santa Fe Springs for the week ending May 16 was estimated to be 151,650 barrels, which was about 10,000 barrels off the figure for the same number of wells the week before.

In the opinion of some operators, the water problem at Lawndale is due to the inexperience of some local drillers in dealing with paraffin-base oils. J. V. Lawrence and L. F. Mitchell, with drilling experience in eastern fields, have apparently discovered the solution to the serious water problem existing in this field. These drillers claim a smaller size pipe should be used to prevent channeling in the cement, and that a special type of cement should be used that will give a good set in a short time.

Six new completions for 1485 barrels at Long Beach failed to add much to the total production of the field. The estimated daily average production from the 888 producing wells was 182,459 barrels, of which 365 wells in the deep sands put out 131,554 barrels. The Dixey No. 1 of the Signal Oil Co., a wildcat on the northwest edge of the proven area, is down 2450 feet.

Standard Oil Co. completed its San Gabriel No. 7 from 5080 feet at Seal Beach for 800 barrels of clean 26 gravity oil. Standard also killed its San Gabriel No. 20 in the Selover zone at a depth of 5575 feet, because of the large water content. The plan is to recement this hole with the hope of making a large producer.

Standard Oil Co.'s No. 81 on the north dome of Kettleman Hills in Sec. 11-27-17 has run 9-inch casing and cemented at 6040 feet and Marland Oil Co.'s 12-8, down to 5716 feet, will set casing at 6000 feet. Both these wells are offsetting Milham's discovery well, although the structure is apparently 400 feet higher than was anticipated from the log of the Milham well.

Other California fields hold little of interest, although Max L. Pray, independent operator, is reported to have some good showings in the Potrero field. This field has been a source of mystery for several years to local operators as it has all the earmarks of an oil field, as far as location with reference to other fields on the Beverly Hills-Newport uplift is concerned.

A new location was announced for a wildcat in the Semitropic area by D. C. Aldridge, independent operator. This well is to be drilled about two miles south of the Richfield Oil Co.'s Redding No. 1 and is located in the northeast corner of Sec. 12-28-33.

Texon Control Bought By Marland Oil

CLEVELAND, May 18.—Preliminary to its expected merger with the Continental Oil Co. of Maine, the former Standard Oil subsidiary that operates in the Rocky Mountain and Mid-Continent territories, Marland Oil Co. has acquired control of the Texon Oil & Land Co., which operates in the Big Lake, Winkler and Howard county pools in West Texas.

The latest acquisition of Marland will give it about 5400 barrels' production more, of which amount 2500 barrels is a light crude that yields a large percentage of gasoline. The light oil is coming from the world's deepest producing well.

With the purchase goes a 25 per cent interest in the Big Lake Oil Co., a stock interest in Group No. 1 Oil Co., and Group No. 2 Oil Co., and a 49 per cent interest in the Reagan County Purchasing Co., of which Marland previously owned 51 per cent.

Marland stockholders are to vote June 18 on the consolidation with the Continental. Under the merger plan it is to exchange 2,317,266.35 shares for Continental's stock. To do this Marland stockholders are to be asked to increase the volume of Marland's authorized shares to 6,000,000 from 2,400,000, all without par value. They also will vote on changing the name of the Marland Oil Co. to Continental Oil Co.

In the first quarter of this year Marland's loss amounted to $873,497, or less than half its loss in the first quarter of 1928 when it was $1,876,992.

All Wells Grouped by Output In New California Plan

LOS ANGELES, May 18

CALIFORNIA proration plans as originally laid out are now undergoing revision because of the inequities that developed through the application of the original plan.

Machinery of the new plans provides that curtailment shall be based on individual wells, grouped according to the volume of their potential production, and not upon the production of the wells in any particular field.

Potential production of each well is to be curtailed enough to bring the state's production down to 650,000 barrels per day. Such a rate is to be maintained until market and storage conditions justify an increase.

The amended plan provides that wells shall be divided into three groups, as follows: (1) Wells having a potential production of 20 barrels or under will be subjected to a 10 per cent cut; (2) wells having a potential production of over 20 barrels and under 500 barrels will be cut 15 per cent; and (3) wells having a potential output of over 500 barrels, will be subjected to a cut sufficient to bring the state's potential production down to the predetermined figure of approximately 650,000 barrels.

In the opinion of Umpire F. C. van Deinse this system of prorating will take care of production from future fields, and will secure the support of the smaller operators.

Production of Kettleman Hills, which under the old plan was 3500 barrels, could not be increased without increasing the state total or without cutting into the production allowed some other field. Under the new plan this difficulty will be overcome.

Mr. van Deinse believes that, by June 1, the new method of proration in California will be in working order.

Although there has been no announcement that Governor Young of California has signed the gas conservation bill, which passed the state assembly and senate late last week, it is generally believed that he will do so within the next day or so. This bill is in the form of an amendment to the existing act establishing the control of the state over water infiltration, and creates a new division of the State Department of Natural Resources under the State Oil and Gas Supervisor. As it contains an emergency clause the law would become effective ten days after the date of signing by the Governor.

In the opinion of many operators, the most important feature of the new law is found in Section 8b which reads as follows: "The unreasonable waste of natural gas by the act, omission, sufferance of or insistence of the lessor, lessee or operator of any land containing oil or gas or both, whether before or after the removal of gasoline from such natural gas, is hereby declared to be opposed to the public interest and is hereby prohibited and declared to be unlawful. The blowing, release or escape of natural gas into the air shall be prima facie evidence of unreasonable waste."

The bill if it becomes a law will have a beneficial effect on the existing proration system in that it will act upon the small operators who have not as yet seen fit to enter into the spirit of the plan, but have rather let the burden of shutting in production fall on the major companies, who at an early date fell into line.

Crude Tariff Proposal Made To House Committee

WASHINGTON, May 20

A CUSTOMS tariff duty of $1 a barrel on crude petroleum and corresponding duties on refined products, sought by independent producers in the Mid-Continent field, was advocated before Republican members of the House of Representatives ways and means committee May 18.

Representatives Sproul of Kansas, Hastings and O'Connor of Oklahoma and Robsion of Kentucky made the presentation. The last named has oil in his district and also coal operators, who favor putting a duty on petroleum and its products.

The ways and means committee, in making up the Hawley tariff bill now before the House of Representatives, left petroleum on the free list. The present move is being made with the hope of inducing the committee to report an amendment to the bill. Committee amendments are in order but amendments by individual members are not. Unless the committee decides to offer the amendment the House members will abandon any plans in respect of their own part of Congress and concentrate their efforts on the Senate.

A good many Republican members of the House from the oil country are fearful of the proposal, because they think the imposition of a tariff duty on petroleum would be regarded as raising the price of gasoline. Representative Hastings insisted that a duty would not result in an increase in the price of gasoline, because, as he said, "the price of gasoline is artificially fixed."

He said a duty would make a difference in the price of crude. He said that a tariff duty would be in the interest of the farmer since farmers were interested in future development of oil fields, as owners of land, to say nothing of the 100,000 workmen employed in the production of crude petroleum.

The committee was told that Oklahoma had suffered by the decrease in gross production tax returns from crude, the failure in taxes being attributable, the committee was told, to low prices of crude oil. The state, it was asserted, had to abandon part of its public school program because of the reduction in returns from the petroleum tax. The chief competition, Mr. Hastings said, was from Mexican and Venezuelan oil, coming into the country at the rate of 100,000,000 barrels a year.

"This proposal is in the interest of the small producer," asserted Mr. Hastings. "Of the total number of wells in the country, 337,000 of them produce on an average not more than 4.7 barrels a day."

Representative O'Connor, of the Tulsa district, told the committee that Vice-President Curtis, while campaigning last fall, in a speech at Tulsa, Sept. 27, favored a duty on crude.

Seminole Production Summary

(By Telegraph)

Field	May 18 Wells	May 18 Barrels	May 11 Wells	May 11 Barrels
Little River	335	77,197	333	76,555
Bowlegs	306	36,729	306	35,633
Earlsboro	306	60,588	307	62,945
Seminole City	276	36,376	276	32,991
Searight	75	13,159	73	12,733
Carr City	41	14,591	36	14,572
Maud	117	13,224	115	12,148
Mission	113	41,586	108	36,527
St. Louis	352	90,786	352	94,318
Grand Total	1,921	384,236	1,906	378,442
Average per well, barrels		200		198

Completions in Oklahoma and Kansas, Week Ended May 18, 1929

Carter County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	4	NE SW SE 18-1-3 W	2804-2863	75
Magnolia	3	NWc SW 33-1-3 W	3510-4048	60
Magnolia	1	SE NE NE 4-2-3 W	2953-3391	50

Cotton County

Moore	2	NEc SW 2-2-10 W	2174-2190	170
Linson	1	NW NE NW 14-2-11 W	T.D. 2018	Dry

Creek County

Sherry et al	1	NEc SE NE 24-19-9 E	T.D. 2944	Dry
Billingslea-Devonian	1	SEc NW NE 15-17-7 E	T.D. 2920	Dry
Roxaline	3	NWc SW SW 27-17-12 E	T.D. 1803	Dry
Tibbens	40	CSL SE NW 30-15-9 E	T.D. 1270	Dry
Smith-Coffee	1	CWL SW NW 19-18-11 E	710-723	20
Mid-Continent	5	NWc NE SE 15-17-7 E	2873-2875	2
McCready et al	1	SWc NW SE 30-17-11 E	1790-1804	25
Kelly et al	1	SWc SE 26-14-9 E	3004-3044	70

Garvin County

Magnolia	29	NW SE NE 15-1-3 W	T.D. 2120	Dry

Kay County

Wentz	1	NW SE SW 32-27-1 E	T.D. 4095	Dry

Muskogee County

Hisel et al	1	SWc SE NE 31-15-19 E	T.D. 975	Dry
Swanson	2	SWc NE SW SW 6-14-19 E	T.D. 882	Dry
Bement	5	CWL SW NE 5-13-16 E	T.D. 1779	Dry
Robinson Bros	2	SWc NW NE 8-13-16 E	1628-1642	70

Okfuskee County

Minnehoma	2	SWc SE 29-12-10 E	3090-3123	27M
Josey	13	CSL NW 33-12-11 E	2985-2995	3M
Umburn	2	C NE SE 12-10-11 E	T.D. 2137	Dry
DeWitt-Baldridge et al.	1	NWc NE NE 5-10-11 E	T.D. 3996	Dry
Ashe	1	NEc NW 35-11-11 E	T.D. 3790	Dry

Oklahoma County

Coline	2	C NE NW 24-11-3 W	4846-4855	65M

Okmulgee County

Kirkland-Son	1	NEc SE 24-15-12 E	1448-1534	7
Winemiller	1	SEc SW 21-14-11 E	1285-1340	¾M
Wallace	6	NWc SW NE 14-14-14 E	1722-1756	30
Rebold et al	4	CEL NW NE 22-13-12 E	2995-2912	25
Foreman-Wise	5	NEc 10-15-14 E	T.D. 1705	Dry
Empire	1	SEc SW SW 29-14-12 E	T.D. 2957	Dry

Osage County

Oliphant	2	SWc SE 9-21-9 E	T.D. 2370	Dry
Oliphant	1	NEc 16-23-9 E	T.D. 2300	Dry
Bozo et al	1	NE NW NW 9-20-10 E	2233-2338	50
Silurian	54	SE NE NW 17-23-12 E	1486-1549	35
Brown	5	NW SE NW 7-24-8 E	2325-2340	90

Pawnee County

Adamson	2	SEc SW SE 24-21-7 E	2851-2853	365

Pontotoc County

La Salle	3	SE NE NE 31-5-5 E	2438-2550	150
Independent	1	SE NW SE 20-5-7 E	T.D. 4143	Dry

Pottawatomie County

Phillips	3	NE NW SW 17-8-5 E	T.D. 3915	Dry
Phillips	4	NW NE SW 17-8-5 E	T.D. 4060	Dry
Mid-Continent	4	SEc NE 18-8-5 E	4025-4033	20
Magnolia	4	NE SW NW 18-7-5 E	4020-4160	50
Magnolia	5	SE SW NW 18-7-5 E	4060-4203	150
Sinclair	5	SE NE NW 18-7-5 E	3985-4050	675
Independent	1	SEc NW 18-8-5 E	4197-4200	OWD 35
Martin-Erwin et al.	1	SE NE NE 2-7-4 E	3750-3777	2130
Magnolia	1	SEc SW 15-7-4 E	3630-3712	370
Westhiemer-Daube	2	SEc SW 23-7-4 E	4298-4301	80

Seminole County

Company	Well No.	Location	Depth	Init. Prod.
Empire	1	NE SE NE 27-7-6 E	3143-3146	392
Gypsy	2	NEc SW 23-7-6 E	3150-3200	OWD 2160
Shell-Papoose	8	SWc 7-8-6 E	4239-4246	361
Shell-Marland	3	SW NW NE 7-8-6 E	4379-4395	390
Minnehoma	3	SE NW NW 7-8-6 E	4269-4271	965
Gypsy	6	NE SE NW 7-8-6 E	4245-4259	400
Tidal	3	SE NE NE 12-8-5 E	4270-4288	1020
Magnolia	1	SW NW NE 11-8-5 E	4152-4164	21
Mid-Continent	4	SW SE SE 32-10-6 E	4333-4351	325
Gypsy	1	SW SE SW 31-10-6 E	4316-4332	77
Sinclair	1	SEc 36-10-5 E	4330-4343	1350
Mid-Continent	15	NW SW SE 7-5-8 E	4135-4140	825
Dillines et al	1	SW SE SE 30-7-6 E	T.D. 1300	Dry
Pine	2	NEc NW 8-8-6 E	T.D. 4369	Dry
Gypsy	1	NE NW SW 15-8-5 E	T.D. 4263	Dry
Magnolia	3	SW SE NW 13-9-5 E	T.D. 4346	Dry

Stephens County

Amerada et al	1	SEc NE SE 22-1-9 W	T.D. 2347	Dry
Pace et al	2	NE SE SW 16-2-7 W	T.D. 1857	Dry
American	5	SEc NW 34-1-8 W	1851-1857	135
Lone Eagle	9	NWc SE 34-1-8 W	1859-1861	100

Wagoner County

Midco	1	SEc SW SW 15-18-17 E	780-786	¾M

KANSAS

Butler County

Wichita Drlg	1	NE SE NW 18-25-4 E	T.D. 3415	Dry
Empire-Phillips	1	NWc NE 29-25-4 E	T.D. 2684	Dry

Ellis County

Atlantic	1	C SE SE 35-15-16 W	T.D. 3507	Dry

Greenwood County

Mohawk	1	NW NE SW 7-27-11 E	1901-1909	50

Harvey County

Helmerick-Payne	1	SW NE SW 2-22-1 E	T.D. 3420	Dry

Marion County

Darby	1	NEc SE 12-19-2 E	2814-2830	300
Darby	2	NW NE SE 12-19-2 E	2844-2860	80
Shell	1	NWc SW 7-19-3 E	2803-2818	300

Phillips County

Watsonion	1	NEc SW 21-3-19 W	T.D. 4071	Dry

Saline County

Jones et al	1	NWc SW 27-14-2 W	T.D. 3587	Dry

Sedgwick County

Durham	1	NE NW SE 36-25-1 W	T.D. 3425	Dry
Hartman-Skaer et al.	1	SE SW NE 36-25-1 W	T.D. 3468	Dry
Held-Youker	1	NEc NW NW SE 36-25-1 W	T.D. 3475	Dry
Betty Brown	1	NW NE NW 5-26-1 E	T.D. 3502	Dry
Shawnee et al	1	NEc SW 5-26-2 E	T.D. 3570	Dry
Dickey et al	1	NWc SW 21-28-1 E	3090-3100	700
Davis-Skelly	4	SEc NE NE 1-26-1 W	3400-3406	80
Bu Vi Bar et al	4	SEc NE 12-26-1 W	3353-3385	1800
Bu Vi Bar	2	SW SE SW 6-26-1 E	3368-3374	890
Bu Vi Bar et al	4	SEc NE SW 6-26-1 E	3362-3380	55
Derby	1	NW NE SW 6-26-1 E	3387-3389	720
Fleeger	1	NEc SE NW SW 6-26-1 E	3374-3379	940
Bu Vi Bar	4	SWc NW 7-26-1 E	3349-3358	1380
Bu Vi Bar et al	5	NEc NW NE NW 7-26-1 E	3363-3370	1265

Sumner County

Shell	7	CSL SE NW 36-31-2 E	1937-1988	70
Davis-Harreld	1	SE NE NE 27-34-2 E	3455-3505	150
Blankenship et al	1	SEc 2-31-1 E	T.D. 3890	Dry
Marland	1	NW SW SE 23-34-2 E	T.D. 3861	Dry OWD

Completions in California, Week Ended May 11, 1929

Long Beach

Company	Well No.	Location	Depth	Init. Prod.
Boyd-Hammond	No. 5	....	5924	28
Bush-Voorhies	Bess 3	....	6575	150
Delany Pet. Corp.	Wellington 3	....	7075	5200
Graham-Loftus	Dodge 1	....	6195	24
MacMillan Pet. Corp.	No. 9	....	4650	225
Magnet Oil Co.	No. 1	....	6176	86
The Texas Co.	Harlow-Kent 5A	....	7200	310

Santa Fe Springs

Richfield Oil Co.	Howard 4	....	6520	3000
St. Helens Pet.	Hill 1	....	6380	3000
The Texas Co.	Matern 2	....	6590	2900

Company	Well No.	Location	Depth	Init. Prod.
Universal Oil Co.	Blanchard 6	....	6325	3400
Universal Oil Co.	Blanchard 8	....	6550	6000

Seal Beach

Standard Oil Co.	San Gabriel 20	....	5575	1370

Ventura Avenue

Associated Oil Co.	Lloyd 73	....	7425	3440
Associated Oil Co.	McGonigle 6	....	7210	630

Belridge

Belridge Oil Co.	No. 15	26-27-20	4265	45

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended May 18, 1929

OKLAHOMA

Carter County

Company	Well No. & Farm	Location
Magnolia	6-Hardin	NW SW SE 18-1-3 W
Texas-Pacific	1-Parnell	NWc NE 16-1-3 W OWD

Creek County

Magnolia	35-Coker	SWc NW NW NW 16-18-7 E

Haskell County

Company	Well No. & Farm	Location
Holden et al	1.....	SEc 3-9-18 E

Hughes County

Magnolia	1-Witty	SW NW NW 22-7-8 E
Hays	1-Grayson	C SW SW 18-9-10 E

(*Continued on Page 55*)

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended May 18, 1929

(Continued from Page 54)

Jefferson County

Company	Well No. & Farm	Location	
Sigler et al	2-Peniston	NEc SE NW SW 16-7-5 W	

Kay County

Wilson et al	1-Courter	SEc 23-27-1 E	

Kiowa County

Conner-Son	2	SWc NW NW NW 25-7-16 W	

Muskogee County

Mazda	1-Jackson	NEc SE NW 8-13-16 E	
Robinson Bros	1-London	SWc 17-13-16 E	
Bryan	2-Barnett	SWc SE NE 8-15-15 E	OWD
Babcock Bros	5-Barnett	CSL NW NE 8-15-15 E	
Bryan	2-Simmons	SWc NW SW 3-15-15 E	

Okfuskee County

Champlin	1-Campbell	SEc NE SW 29-12-10 E	OWD
Minnehoma	1-Fixico	NW SW SE 29-12-10 E	OWD
Pure	1-Jimboy	C NW NW 25-11-10 E	OWD
Mid-Cont	1-Dindy	NW SE NE 31-11-11 E	
Indep. et al	1-Lowe	SW NE NW 22-10-11 E	

Okmulgee County

Jackson-Wise	9-Adams	SWc 3-15-11 E	
Buzzard et al	1-Clarkson	NW SE NW 32-15-13 E	
Taylor et al	9-Tiger	CWL NE SW 22-15-14 E	
Shaffer et al	1-Cornelius	SWc SE 10-14-12 E	
Riney-Williams	4-Love	SEc NE SW 9-14-14 E	OWD
Kessler	2-Colbert	CNL NW NW 16-14-14 E	
Diamond	4-Jones	SWc NW NW 27-13-11 E	
Kellser	2-Mickens	SWc SE 28-13-13 E	
Riverland	1-Atkins	CWL SE 17-13-15 E	
Red Bank	1-Henry	NWc NE SE 27-12-12 E	

Osage County

I. T. I. O.	1	NWc SE 16-28-8 E	
Stanley et al	2	NWc 15-25-8 E	
Harland	83	NE SE SW 21-25-11 E	
Oliphant et al	3	SW NW NE 6-23-9 E	
Peters et al	1	NEc SW 31-22-9 E	
Braden-Moore	15	NEc SW SW NE 12-21-8 E	
Moore Est. et al	2	SW NW NE 16-21-9 E	
Okla. P. & W	117	SE SW SE 30-21-10 E	
Okla. P. & W	119	SEc SW SW 4-20-10 E	

Pontotoc County

Independent	1-Davis	NE NW SW 19-5-5 E	
Empire	1-Morris	SW SE NW 19-5-5 E	
American	2-Robertson	SW NE SW 19-5-5 E	

Pottawatomie County

Pure	1-Kelly	NE SE NW 19-9-5 E	
Superior	1-Songster	NWc 8-9-5 E	
McCulloch-Carter	1-McDowell	NW SE SW 28-6-4 E	
Sikes-Douglas	1-Townsite	NEc SW 18-6-4 E	
Morris	1-Townsite	SWc SE 18-6-4 E	
Clark-Cowden	1-Townsite	NWc SE 18-6-4 E	
Indep.-Darby	1-Pappan	NE SE SE 16-7-4 E	
Magnolia	2-Harden	NWc 12-7-4 E	
I. T. I. O.	1-Shobe	SEc 35-8-4 E	

Seminole County

Empire	2-Charty	SW SE NW 24-7-6 E	
Sinclair	4-Harjo	NW SE SE 11-8-5 E	
Empire	5-Cotcha	SEc NE 27-7-6 E	
Gypsy	2-Nevins	NWc SE 32-10-6 E	
Sinclair	4-Davis	SE NW SE 7-6-8 E	
Wrightsman	1-Green	NW NE NE 19-9-6 E	

Stephens County

Pace-Texhoma	3-Houston	SEc NW SW 2-2-8 W	
Pace et al	3-Bristowe	SWc NW 18-2-7 W	

Wagoner County

Ash Bros	1-Childers	SWc SE 15-18-17 E	
McCracken	8-Childers	CSL NE NW 21-18-17 E	

KANSAS

Burler County

White Eagle	1-Bachelber	SWc 17-25-3 E	
Empire	1-Marshall	NE SW SW 11-27-5 E	
Empire	1-Covert	SE SW SE 3-28-5 E	

Coffey County

Sheedy et al	1-Niver	SW SE SE 6-22-14 E	

Cowley County

Indep.-Vickers	3-Youle	NW NE NE 16-32-4 E	
Kentucky Nitro. & Oxyg.	6-Dabson	SE NE NE 24-33-6 E	
Kentucky Nitro. & Oxyg.	1-Day	NWc NE 24-34-6 E	

Dickinson County

Hiatt-Durham	1-Wentz	NWc 17-16-2 E	

Elk County

Elk	9-Kayser	NW NE NE 9-30-9 E	

Greenwood County

Davis-Hazlett et al.	1-Pixlee	NEc SW 10-22-10 E	
Henderson-Holden.	2-Pixlee	SWc NE 10-22-10 E	
Phillips	3-Pixlee	SEc NW 10-22-10 E	

McPherson County

McPherson	1-Ritz	NW SE SW 1-20-2 W	
Helmerick-Payne		SE NE NE 14-21-1 W	

Russell County

Leggitt et al	1-Gibbs	NWc 20-12-15 W	
Phillips	1-Solback	SEc NW 32-12-14 W	
Allison et al	1-Mahoney	NWc SE 5-14-12 W	

Sedgwick County

Bu Vi Bar et al	6-Carr	NE SE SE 1-26-1 W	
Bu Vi Bar	5-Wright	NE SE NE 12-26-1 W	
Bu Vi Bar et al	6-Wright	NEc 12-26-1 W	
Bu Vi Bar	6-Shawver	NE NW NW 7-26-1 E	
Bu Vi Bar	8-Shawver	NW SW NW 7-26-1 E	
Simmons-Canary	1-Scott	NE NW NE 22-26-1 E	
Gypsy	1-Hamant	SWc NW 14-26-2 E	
Gypsy	2-Hamant	NWc SW 14-26-2 E	
Foster-Deal et al	1-Townsite	Lot-24, Blk-6, 15-26-2 E	
Plains	1-Townsite	Lot-4, Blk-7, 15-26-2 E	
Shell	1-Hamant	NW NE NE 22-26-2 E	
Kyle et al	1-Penn	SW NW SE 29-28-1 W	
Lario	1-Teachant	NE NW SE 27-29-1 W	

Sumner County

Gypsy	2-Douglas	C SW NE 23-34-2 W	

TEXAS
NORTH CENTRAL AND EAST CENTRAL

Anderson County

			Survey
Humble	1-Beard		Trimmer
Humble	3-Southern Pine Lbr. Co.		Morton

Brown County

Company	Well No. & Farm	Location	
Anderson	4-Leatherwood	Sec-11, Blk-789	Delgado
Humble	18-Armstrong	Sec-1, Blk-789	Delgado
Lloyd	13-Stanley	Blk-139	Smith
Duffey et al	1-Hill	Blk-63	Midgett
De Mont	5-Newton	Blk-282	Jones
Humphreys Bros	9-Newton	Blk-141	Mitchell
Amer. Maracaibo	2-Cross	Blk-623	Honeycutt
Amer. Maracaibo	1-Cross	Blk-623	Honeycutt
Warren et al	2-Duff	Blk-623	Honeycutt
Paramount	9-Mayes	Blk-609	Ross

Callahan County

Cranfill-Reynolds	1-Harris	Sec-19	BBB&C
Enmo	5-Beasley	Sec-25	D&DA
Moutray	9-Hatchett	Sec-23	D&DA
Gibson-Johnson	5-Snyder	Sec-142	BBB&C
Bradstreet-Holden	14-Miller	Sec-98	Comal Co. Sch. Ld.
Bradstreet-Holden	13-Miller	Sec-98	Comal Co. Sch. Ld.
Humphries	5-Gray	Sec-40	D&DA
Holden, et al	1-Cavanaugh	Sec-98	Comal Co. Sch. Ld.
Breeman	1-Hall	Sec-288	Wood

Coleman County

Brown, et al	1-Turner Est.	Blk-334	Wilson
Canyon	1-Baker	Blk-83	Faxel
Stepp-Vandeverter	1-Shore	Sec-72 Blk-1	GH&H
Taylor-Link	1-Huddleston	Sec-105	ET

Eastland County

McLester et al	1-Allen		Foster
Arab	1-Phillips	Sec-15 Blk-4	H&TC

Freestone County

Hoosier et al	1-Nussbaum		Sweet

Jack County

Fluty et al	1-Maxey	Sec-2	SP

Stephens County

Texas-Pacific	3-Pierce	Sec-45 Blk-6	T&P
Cranfill-Reynolds	2-Morris	Sec-64 Blk-6	T&P

Shackelford County

Frizzell-Smalley	2-Mathews	Sec-56	ET

NORTH TEXAS

Archer County

Panhandle	1-Rater		TRR Co.
Gulf Prod	4-Ward Bros.		BBB&C
Identy	1-Brown	Sec-97 Blk-4	ATNCL
Gohlke	4-Wilson	Blk-32	Geraldine
United Prod	1-Wilson	Sec-1 Blk-7	H&TC
Long-Texas	1-Thom		Spillers
Humble	2-Falls Co. Sch. Ld.	Blk-33	FCSL
Humble	7-Logan		Armes
Maxon	4-Green		Levins
McLaughlin Bros.	1-Justice	Blk-8	Patton
Continental	1-Falls Co. Sch. Ld.	Blk-16	FCSL

Cooke County

Thorton-Taubert	1-Poteet		Stephens
Shell	1-Dennis		Hutchinson
Benson Bros. et al.	1-Goff		SP

Clay County

Mid-Cont	1-Stine Bros.	Blk-7	Parker Co. Sch. Ld.
Merrick-Belcher	3-Bates et al.	Blk-6	Parker Co. Sch. Ld.
Mid-Cont	3-Stine Bros.	Blk-7	Parker Co. Sch. Ld.

Wichita County

Riner-Bailey	3-Michie		Netherly
Panhandle	4-Burnett	Sec-6	Meade
Bowen	1-Fassett	Sec-2	Templeton
King Royalty	4-Boyd	Blk-12	Lewis
Wilson Drlg	5-Kemper	Blk-57	KWVFL

Wilbarger County

Kelley-Barr	1-Waggoner	Sec-22 Blk-4	H&TC
Summer-Massie	1-Waggoner	Sec-8 Blk-4	H&TC
Staley-Wynne	0-1-Waggoner	Sec-9 Blk-4	H&TC
Robertson	1-Waggoner	Sec-50 Blk-2	H&TC
Robertson	2-Waggoner	Sec-49 Blk-4	H&TC
Hennisphen	1-Castleberry	Sec-67 Blk-14	H&TC
Empire	B-10-Waggoner	Sec-32 Blk-4	H&TC

Young County

Riggs et al	28-McKinley	Sec-1489	TE&L
Kimbrell-Lyles et al.	3-Dyer		Stroud
Wooten-Reed et al.	1-Vick		Splane
Walton et al	1-Dailey		Tynes
Walton et al	5-Prideaux		Tynes
Wise-Jackson	8-Calvin		Rohus
Rathke-Panhandle	17-Prideaux		Rohus
Hawkins et al	2-Owens	Sec-1	BBB&C
Bradstreet	1-Richardson		Maupin
Cont.-Underwood Drlg.	7-Campbell	Sec-1390	TE&L

PANHANDLE

Carson County

Ryan Cons	3-Block	Sec-111 Blk-4	I&GN
Midwest Explor	1-Cooper	Sec-5 Blk-9	I&GN
Gulf Prod	2-Cooper	Sec-5 Blk-9	I&GN

Gray County

British Amer	1-Purviance	Sec-61 Blk-B-2	H&GN
Ray-Massie	4-Chapman	Sec-51 Blk-25	H&GN

Hutchinson County

Penney et al	2-Johnson	Sec-35 Blk-Y	A&B
Phillips	1-Moore-Johnson	Sec-34 Blk-Y	A&B

WEST TEXAS

Howard County

Moody	12-Roberts	Sec-136 Blk-29	W&NW
Moody	11-Roberts	Sec-136 Blk-29	W&NW

Mitchell County

Republic	1-Scott et al.	Sec-20 Blk-17	SP

Pecos County

Taylor-Link	1-Univ.	Sec-30 Blk-16	Univ.
Shell	1-Univ.	Sec-29 Blk-16	Univ.
Gulf Prod	18-Smith	Sec-22 Blk-194	TC
Gulf Prod	17-Smith	Sec-22 Blk-194	TC
Mid-Kans. & Transc.	7-Yates	Sec-62 Blk-1	I&GN

Wheeler County

Upham	1-Gootch	Sec-81 Blk-23	H&GN
Gillispie et al	1-McMurty	Sec-67 Blk-17	H&GN
Southern Crude	T88C-Hendricks	Sec-21 Blk-26	PSL
Tidal	1-Scarborough	Sec-1 Blk-C-22	PSL
Shell	6-Scarborough	Sec-1 Blk-C-22	PSL

Completions in Texas, Week Ended May 18, 1929

NORTH CENTRAL AND EAST CENTRAL

Anderson County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Humble	1	Gauger	Trimmer		T.D. 3995	Dry

Brown County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Lloyd	12	Stanley	Smith	Blk-139	T.D. 470	Dry
Humble	17	Armstrong	Delgado	Sec-1 Blk-789	T.D. 1335	Dry
Brock-Switzer	1	Gentry	Bates	Blk-146	T.D. 812	Dry
Ven Mex	7	Hickman	Benson	Blk-783	1291-1300	10
Paramount	8	Mayes	Ross	Blk-609	548-559	4
Humble	22	Hodnett	Harris	Blk-784	1187-1188	22
Graham-Lash	5	Guyer	Batton		561-570	10

Callahan County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Warren-Hays	6	Able	D&DA	Sec-32	T.D. 800	Dry
Enmo	4	Beasley	D&DA	Sec-25	T.D. 801	Dry
Moutray	8	Hatchett	D&DA	Sec-23	T.D. 435	Dry
Texas	3	Hatchett	D&DA	Sec-24	407-424	100
Redmond	1	Moore	SP	Sec-9 Blk-6	1860-1865	36
Moutray	7	Hatchett	D&DA	Sec-23	379-397	75
Bradstreet-Holden	12	Miller	Comal Co. Sch. Ld.	Sec-98	1633-1661	50

Coleman County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Vacuum et al	1	Weaver	Gabel	Sec-10 Blk-271	1874-1906	7
Steph-Keister	2	Shore	GH&H	Sec-72 Blk-1	780-785	1½M
Owens et al	1	Westbrook	Robinson	Blk-153	1888-1890	20
Texas-Pacific	3	Gay	Fisk	Blk-630	T.D. 1475	Dry
Shell	1	Weaver	Gabel	Sec-17 Blk-271	T.D. 1853	Dry
Jamison-Pollard-Forester et al.	1	Shore	GH&H	Sec-72 Blk-1	T.D. 1505	Dry
Canyon	1	Wesley	White	Sec-6 Blk-161	T.D. 1601	Dry

Eastland County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Cranfill-Reynolds	1	Turner	H&TC	Sec-30 Blk-2	T.D. 1277	Dry
Root et al	2	Noble	H&TC	Sec-25 Blk-3	T.D. 3600	Dry
Hoffman-Page	1	Foster	H&TC	Sec-27 Blk-2	T.D. 1470	Dry
Kerk-Whitesides	1	Turner	H&TC	Sec-30 Blk-2	1298-1319	30
Gholson et al	2	Fox	McClennon Co. Sch. Ld.	Blk-28	1140-1146	15

Erath County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Hickory	2	Smith	Stubblefield		T.D. 3367	Dry

Falls County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Humble	1	Peiper	Thurner		T.D. 1638	Dry
Yost et al	1	Pamplin	Pellow		T.D. 3929	Dry

Jack County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Hays et al	1	Knox	Buckner		T.D. 3014	Dry
Pet. Prod. et al.	1	Sampley	Sanders		3143-3181	86
Buttram	1	Vanhoosier	SFIWC		2043-2051	25

Milam County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Michalk-Clark	1	Johnson	Acosta		T.D. 1970	Dry

Shackelford County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Callahan et al	7	Nail	ET	Sec-151	T.D. 1524	Dry

NORTH TEXAS

Archer County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Young	2	Taylor	SP		418-426	2
Underwood Drlg.	4	Wilson	H&TC	Sec-12 Blk-3	1620-1622	12
Shell	4	Abercrombie	Harris	Blk-41	1377-1388	12
Pandem	2	Wallace	DCSL	League-3 Blk-11	1773-1774	20
Magnolia	13	Hudson	Harris	Blk-80	1165-1172	7
Kemrow	4	Campbell	DCSL	League-3 Blk-1	708-720	3
Josey et al	2	Prideaux	Dorsey	Blk-24	639-651	12
Hunter	1	Abercrombie	Abercrombie		1303-1308	10
Gohle et al	3	Wilson	Geraldine	Blk-25	1562-1571	40
Brown	2	Brown	SP	Sec-2	1574-1585	110
Texas	1	Richardson	Scott		T.D. 1500	Dry
Texas-United Prod.	2	Brown	Sellers		T.D. 1600	Dry
Stumpf	1	Hefley	DCSL	League-3 Blk-7	T.D. 1849	Dry
Maycamp Drlg.	1	Matlock	Toby	Blk-25	T.D. 766	Dry
Long	1	Lassater	Pickens		T.D. 1503	Dry
Johnston	2	Garvey	TE&L	Sec-1859	T.D. 854	Dry
Hines et al	1	Hamilton	Crawford	Blk-5	T.D. 1400	Dry
Hines et al	1	Chancellor	Allsmans		T.D. 1577	Dry
Burns	1	Portwood	TE&L	Sec-2411	T.D. 1505	Dry

Clay County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Mid-Continent	1	Evens	Parker Co. Sch. Ld.	Blk-6	1709-1733	50
Mid-Continent	1	Stine Bros.	Parker Co. Sch. Ld.	Blk-7	1709-1729	20
Mid-Continent	2	Stine Bros.	Parker Co. Sch. Ld.	Blk-7	1759-1772	60
Mid-Continent	1	Stine Bros.	Parker Co. Sch. Ld.	Blk-7	1780-1796	6
Lone Star	1	Fee	Parker Co. Sch. Ld.	Blk-17	1774-1786	30
Merrick-Belcher	2	Bates et al.	Parker Co. Sch. Ld.	Blk-6	1756-1777	47
Merrick-Belcher	1	Bates et al.	Parker Co. Sch. Ld.	Blk-6	1769-1791	60
Lone Star	2	Fee	Parker Co. Sch. Ld.	Blk-18	T.D. 1905	Dry
Stumpf et al	3	Boddy	HT&B	Sec-1	T.D. 1955	Dry

Cooke County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Mitchell et al	1	Mitchell	Toby		T.D. 1718	Dry
Kewanee	12	Hyman	ET		T.D. 1536	Dry
Kewanee	15	Hyman	ET		1073-1202	255

Montague County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Bridwell-Cont.	1	Landerback	Robinson		T.D. 1959	Dry

Wichita County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Golding-Cochran-Mayfield	1	Waggoner Bros.	George	Blk-24	T.D. 2006	Dry
Bass-Dillard	1	Woodward	Waggoner	Blk-325	T.D. 2006	Dry
Humble-Hines	2	Waggoner	Willis		T.D. 2002	Dry
Comac Drlg. et al.	6	Bishop	Netherly		1790-1800	25
Heydrick-Stumpf	1	Boyd	Lewis	Blk-11	1776-1791	178
Texas	4	Wag. Bros.	GC&SF		1344-1362	20
Staley-Wynne	15	Kemp et al.	HT&B	Blk-82	1479-1485	15
Panhandle	3	Burnett	Meade	Sec-6	1395-1404	10
Hines	3	Burnett	Meade	Sec-6	1387-1403	76

Wilbarger County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Waggoner	G-6	Waggoner	H&TC	Sec-24 Blk-4	2412-2422	30
Melat	A-5	Waggoner	H&TC	Sec-10 Blk-4	1985-1989	90
Lewis-Payne	1	Waggoner	H&TC	Sec-17 Blk-4	2415-2437	400
Empire	B-7	Waggoner	H&TC	Sec-32 Blk-4	2310-2323	95
Empire	B-6	Waggoner	H&TC	Sec-32 Blk-4	2326-2329	259
Empire	B-5	Waggoner	H&TC	Sec-32 Blk-4	2302-2331	276
Burton	H-1	Waggoner	Purnell		1873-1890	5
Bradstreet et al.	B-1	Waggoner	MEP	Blk-42	2380-2383	42

Young County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Parker-Pennell	1	McDonald	CT		T.D. 798	Dry
Mid-Tex	1	Calvin	Rohus		T.D. 600	Dry
Cunningham-Ford	1	Newman	Sallie		T.D. 604	Dry
Cooper-Hamilton	1	Thomas	TE&L	Sec-155	T.D. 1040	Dry
Casey	3	Boone	BBB&C		T.D. 565	Dry
Texas Unity	1	Haygood	TE&L	Sec-1466	T.D. 694	Dry
Riggs et al	27	McKinley	TE&L	Sec-1489	T.D. 595	Dry
Hawkins et al	1	Owens	BBB&C	Sec-1	729-741	160
Wise-Jackson	7	Calvin	Rohus		609-620	4
Steed-Gans	15	Snider	Wilson		611-616	30
Rathe-Panhandle	15	Prideaux	Rohus		588-595	2

PANHANDLE

Hutchinson County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Alamosa	3	Sanford	H&TC	Sec-83 Blk-46	2985-2988	300
Texas	2	Moore	I&GN	Sec-125 Blk-4	3085-3100	190

Moore County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Skelly	7	Armstrong	Proctor		3156-3159	768

WEST TEXAS

Crockett County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Barber	1	Cox	Dickerson	Sec-1	T.D. 2007	Dry
Wheeler	1	State	Oney	Sec-71½	T.D. 1719	Dry

Glasscock County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Penn	1	Mason et al.	W&NW	Sec-45 Blk-30	T.D. 3510	Dry
Hyer-Yates	4	Clay	W&NW	Sec-155 Blk-29	1846-1851	75

Howard County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Mid-West Explor.	4	Clay	W&NW	Sec-138 Blk-29	1807-1815	300
Cosden	1	Roberts	W&NW	Sec-128 Blk-29	1311-1321	60 (12 Hrs.)
Cranfill-Reynolds	1	Abrams	T&P	Sec-3 Blk-32	2228-2296	600
Humble	1	Clay	W&NW	Sec-138 Blk-29	2914-2944	693

Loving County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Lockhart	1	Fee	W&NW	Sec-91 Blk-1	4193-4242	256
Lockhart	1	Hubbard	H&TC	Sec-84 Blk-33	4138-3175	240

Pecos County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Marland	1	Blakelsee	Y&GN	Sec-100 Blk-8	T.D. 2499	Dry
Mid-Kans. & Transc.	27	Yates		Sec-34½	T.D. 1575	Dry
Geyer-Frates	1	Smith	T&STL	Sec-8 Blk-145	T.D. 1607	Dry
McMann	5	Smith	TC	Sec-25 Blk-194	1675-1684	20 (1 Hr.)
Gulf Prod	16	Smith	TC	Sec-22 Blk-194	1442-1713	40 (1 Hr.)

Ward County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Gulf Prod	4	O'Brien	GMMB&A	Sec-19 Blk-F	2565-2631	1547

Winkler County

Company	Well	Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Southern Crude.	T88	CXL-Hend.	PSL	Sec-21 Blk-26	2695-2825	9486
Southern Crude.	T783	A5-Hend.	PSL	Sec-35 Blk-B-5	2950-3030	14 (1 Hr.)
Atlantic	5	Hendricks	PSL	Sec-44 Blk-26	2875-2925	1364
Southern Crude.	T89	J5-Hendricks	PSL	Sec-9 Blk-B-12	2818-2959	39

Completions in North Louisiana and Arkansas, Week Ended May 16, 1929

LOUISIANA

Caddo Parish—Caddo District

Company	Well	Location	Depth	Yield
Dixie Oil Co.	Robertshaw 97	13-21-15	1753	15 bbls.

DeSoto Parish

Company	Well	Location	Depth	Yield
Rudeseal et al.	Nabors No. 2	6-12-11	1241	Dry, aband.

Grant Parish

Company	Well	Location	Depth	Yield
Carter and Collins	Hardtner and Tannehill No. 1	9-6-1W	2809	Dry, aband.

LaSalle Parish

Company	Well	Location	Depth	Yield
G. W. Zoder	King No. 2	13-10-1E	1528	100 bbls.

Morehouse Parish

Company	Well	Location	Depth	Yield
J. S. Harkness	Bowles No. 5	17-20-5E	2247	5M gas
Ouachita Nat. Gas Co.	Sandidge Patton No. 5	15-20-4E	1792	aband.

Ouachita Parish

Company	Well	Location	Depth	Yield
Interstate Nat. Gas Co.	Hunter McCormick No. 2	13-19-3E	2177	5M gas

Webster Parish

Company	Well	Location	Depth	Yield
La. Oil Refg. Corp.	Gray No. 8	28-21-10	4664	32,500 ft. gas

Richland Parish

Company	Well	Location	Depth	Yield
Carbon Gas Co., Inc.	M. L. McCoy No. 1	8-16-6E	2450	50M gas

TEXAS

Harrison County

Company	Well	Location	Depth	Yield
Eureka Nat. Gas Co.	Cox-Timmons No. 1	R. W. Bedford	2349 HRS	1M gas

ARKANSAS

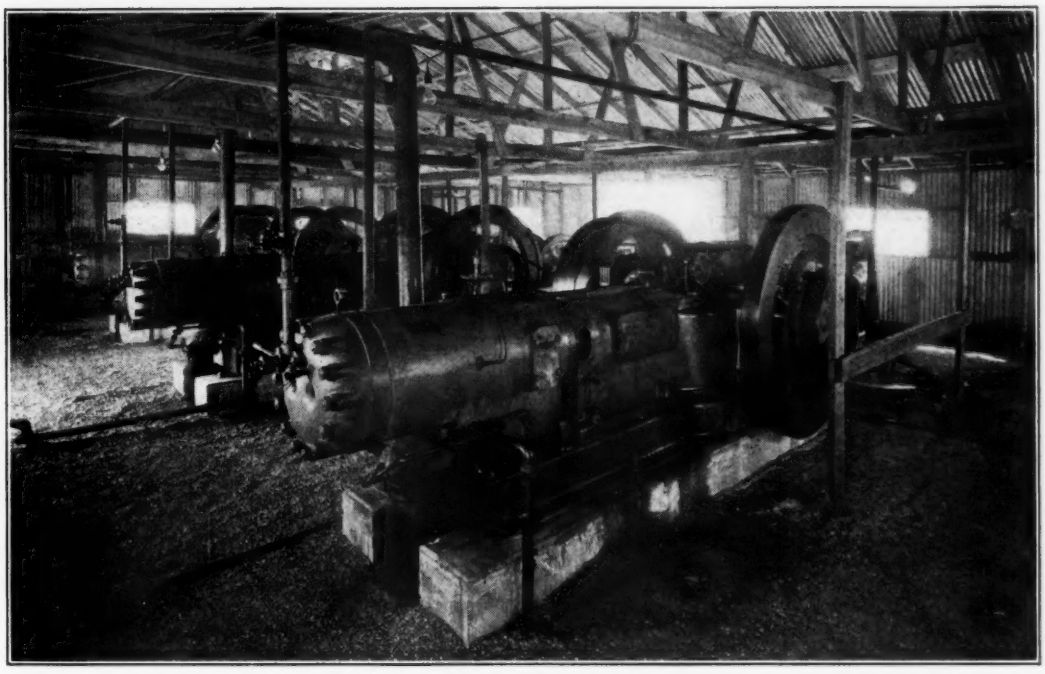
Ouachita County

Company	Well	Location	Depth	Yield
Root Refineries	Wilson No. 1	25-15-18	2845	40 bbls.

Union County

Company	Well	Location	Depth	Yield
Lion Oil & Refg. Co.	Flenniken No. 8	10-16-15	2385	70 bbls.
Lion Oil & Refg. Co.	Hardy-Murphy No. 6	9-16-15	2335	25 bbls.
Ramage	Lawton No. 7	10-16-15	2355	7 bbls.
Standard Oil Co.	J. R. Burns No. 5	31-17-15	2256	100 bbls.
Hawthorne Oil and Gas Co.	Smith No. 1	8-16-17	3520	Dry
Sundby et al.	Yocum No. 1	29-16-17	3536	Dry

Keeping Old Man Accident Off Payroll In Air-Gas Lift Plants



Temporary guard rails around moving parts may be erected even on rush jobs where air compressor equipment is installed in new fields

By F. W. Robson*

Eyes That See
and
Brains that Think
Are the Best Safety
Devices Known—Use Them

THE opinion is retained that this is the best placard issued to date for all lines of industry and particularly for air and gas lift operations in the production of crude oil and incidental manufacture of casing-head gasoline.

In order to properly state the tentative procedure in connection with the installation and operation of gas lift stations from a standpoint of safety, it may be expedient to begin with the authorization by the management of an organization for the immediate application of the lift method to developed property or the subsequent application to developing properties.

Safety shall not only include reference to the normal functioning and protection of human life but also to the proper care and inspection of equipment.

After the management has issued orders to begin construction, all foremen, together with the surveyors, should be requested to congregate on the property for the purpose of consultation and the selection of a site for the future location of the lift station. Safety really does not begin with the consideration of location but at the time each foreman departs in his automobile from any particular place to be present at the field conference. All rules of the highway should be strictly observed while enroute, excepting where a sacrifice of rights will aid in accident prevention.

Of course, a centrally located site should be chosen if the selection does not confine the future station to a low relative elevation in comparison with the remainder of the property. The wisdom displayed in choosing a high area is not only reflected in a resultant safe distance from the oil stock tanks, which should always be located on the lowest levels of the lease so as to effect proper gravitation in oil lines; but that operation may be maintained while uncontrolled volumes of gas accidentally released by future development are naturally seeking lower areas on the property.

A tract large enough for the proposed station plus reasonable extensions should be enclosed with a fence composed of at least four barbed wires with gates interspaced at vantage points for access to the premises. Gasoline storage tanks should be confined within this fence but at a safe distance, at least 100 feet, from the station proper with the central axis of the tank parallel to the center line of the compressor building so that, in the event of failure of the gasoline storage tank the resultant vapors would not be blown in the direction of the station. It is preferable also to locate gasoline storage at a reasonable distance beyond the end of the station, and to install gasoline pumping equipment near the gasoline storage tanks.

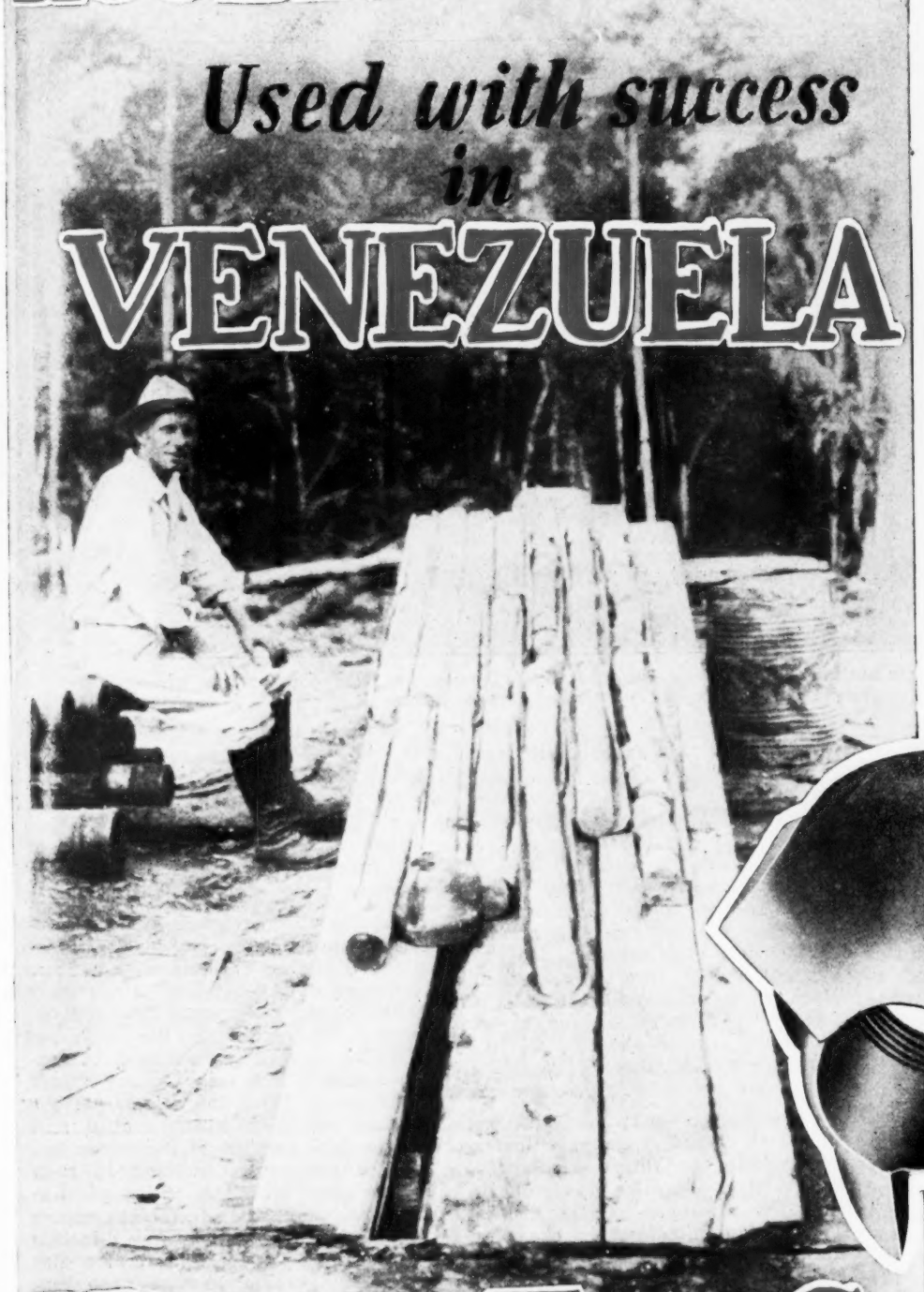
The water circulating tanks in which the cooling towers are built should be located not closer than 200 feet from the station with super-elevation in the ground of three or more feet if possible. The cooling tower should also be on the leeward side, so that water spray will not settle on the dust filmed insulators above

PRESENTED at Safety Banquet, Mid-Continent Oil & Gas Association, and Petroleum Section, National Safety Council, Shawnee, Okla., May 6.

*Superintendent Carter Oil Co.

HUGHES SOFT FORMATION CORE BIT

Used with success in VENEZUELA



The uncontaminated cores shown in this picture were taken with a 7⅝" Hughes Soft-Formation Core Bit in the Colon Development Co.'s well, Tara No. 35, in S. W. Venezuela.

The man with the smile is G. H. Murray, Field Geologist for the Colon Development Co.

Formation was Mirador sand stone.

Hughes Core Bits and Cutter Heads Sold by Supply Stores Everywhere

HUGHES TOOL COMPANY

Service Plants
OKLAHOMA CITY, OKLA.
LOS ANGELES, CALIF.

MAIN OFFICE AND PLANT
HOUSTON, TEXAS

EXPORT OFFICE
NEW YORK CITY, N.Y.

the transformers of an electrically powered lift station. Oftentimes this has caused short circuiting and is a source of firing transformer poles.

Control gate valves for bypassing the water directly into the tank, without resorting to circulating water over the tower, should be installed at the ground line. This feature together with the float indicator of water depth in the tank removes all

The heart of a gas lift plant. Meter and control room where hourly inspection of operating conditions should be made

necessity for steps or ladders. For various reasons it is well to set transformers at least 25 feet distance from the building line.

The compensators, or starting boxes for electric motors, should be so placed that a gas proof wall containing glass windows will protect the compressor room from any possible flash occurring as a result of faulty compensator functioning. Intake field scrubbers receiving gas from the gathering system should be equipped with manometers in order to ascertain the exact pressure or vacuum obtaining and the scrubbers should be set near the high pressure header system.

The high pressure headers should be immediately adjacent and parallel to the main compressor building in electric stations, with auxiliary gasoline equipment, such as aftercoolers and high pressure accumulators, located between the header and meter house, but very close to communication. Obviously, a great amount of thought and consideration should be exercised during the layout design, with special concentration on compact and almost instant accessibility of all controls, sufficient exits from the building and proper ventilation.

Safety rules regarding the loading, transportation and unloading of material and equipment should not only be issued but should be enforced. Extreme precaution should be exercised constantly in laying all pipe lines, installing drips, heaters and check-valves therein. Safety methods should be applied to all other features during construction of the lift station together with the placement of the well separator, or trap, and appurtenances thereto.

Procedure during the construction period requires that no smoking be permitted closer than 100 feet to the station until such time as the fence lines have been definitely defined by setting the posts, after which smoking will be prohibited within the fenced areas, although no danger is apparent. Enforcement of this regulation may seem drastic but experience has taught that immediate impressions regarding safety are established resulting in *Safety Minded* progress to the completion of the project.

Maintenance of tools in first class condition, discarding those which have been broken and fully depreciated is strongly advocated. In conjunction with high pressure pipe lines and headers, only No. 1 or No. 2 reconditioned high pressure fittings of sufficient design should be specified. Thoroughly cleaning all threads and tightly assembling all connections is very essential.

Overtaxing of human strength is averted by precautionary measures such as prescribing one man to each inch of diameter in carrying pipe, although a lesser number could lift one joint. Proper clothing and a positive requirement for sufficiently thick and well-conditioned shoe soles to prevent nail punctures, as well as absolutely forbidding the use of thin rubber boots are features which contribute to safety progress.

In placing responsibility for accidents to his subordinates directly on the gang-pusher, his attention to the proper supervision of the work at hand is assured and it can be assumed that he will do his utmost to prevent any injuries. In this connection all construction forces should be assembled periodically, once a week preferably, for instruction and discussion regarding safety practice and improved working methods.

The basic prerequisite in establishing orderly and economic operation is proper organization. A chief operator should inspect only the number of stations which he is capable of visiting daily and report directly to the director of the lift division. A corps of repairmen superintended by a chief mechanic should be subjected to the immediate summons of the chief operator as well as emergency calls from other vested authority.

Great care and judgment exercised in the selection of stationary operators insures a greater degree of safety and protection to equipment ultimately, the division amenable for operation being held strictly accountable for the employment and discharge of

men in this department of lift practices.

When the operations at a gas lift station reach such proportions that the capacity of a single operator is taxed, it is not only economy to employ an assistant but also a contribution to freedom from danger. Particular safety devices such as relief or commonly called pop-valves need periodical inspection and the expense of a traveling maintenance crew, trained in reconditioning such important equipment as well as replacements of broken gauge glasses, gauge glass guards. valve adjustments, etc., is well justified.

Meter maintenance experts are invaluable, as accurate data with reference to pressures and volumes are desirable for safe operation and economical recoveries and a constant definite knowledge of conditions obtaining. There is no need for guess work when a sufficient number of production engineers are testing wells daily for efficient running rates, and, together with farm or lease superintendents, direct the starting or initial placement of wells on the lift method of recovery.

An adequate office force should be employed in recording all necessary information relating to safety, accidents, investigations, operation and preparation of details for distribution in preventing reoccurrences of injuries. Accident reports should be issued promptly. The strength and alertness

Safety Rules for Air/Gas Lift Plant Operators

General

1. Air-gas mixtures cause explosions, use constant caution to avoid them.

2. Matches, flames or smoking absolutely forbidden within fence lines.

3. In the event of fire, let all electrical equipment run; close main gate on recycle gas lines.

4. Persons entering fenced area must have business inside.

5. Never leave the station while on duty. Doubling tours not permitted except in an emergency.

6. Never stand near compressor heads or headers except for duty.

7. Dispensing of gasoline to any person will not be tolerated.

8. Complete and neat reports are required.

9. Only company literature and hand books permitted for reading matter.

10. Save, Think, Co-operate and be benefited. Be Courteous.

Operation and Maintenance

1. Operator will be held responsible for operation and maintenance of all compressors and auxiliary equipment while on duty.

2. Drain all field scrubbers immediately after beginning tour.

3. Station, premises, compressors and other equipment must be cleaned constantly.

4. Oil soaked rags and waste should be deposited in a container located near a fence corner.

5. Maintain the water circulating pump in a clean and properly packed condition.

6. Blow intercoolers and aftercoolers at proper regular intervals.

7. Drain all scrubbers and drips at proper intervals.

8. Cylinders should be warm to effect good lubrication.

9. Inspect crankcase oil, compressors, belts, etc., daily; and add oil only when shut down.

10. Oil motors with light or medium oil only, and when motors are shut down.

11. Direct strict attention to "Instructions for operating electric motors."

12. Compressor or starting lever should never be thrown into running position until motor has attained full speed.

13. Effect full motor speed before opening header valve against load.

14. Never "Inch the Motors." Use hands, or bar for slight rotations.

15. Gauge glasses must be covered with wire screen protection at all times.

16. Lubricate all stop cocks weekly, if necessary, for uniform operation.

17. Avoid grease on flywheels so that belts will service properly.

18. Insist on station inspector lifting all relief valves weekly for pressure test "pop-off."

19. Gasoline storage tanks must not maintain in excess of 25 pounds working pressure.

20. Never carry more than 5 inches vacuum on any field scrubber.

21. By-pass cooling tower during freezing weather conditions.

22. Reduce water circulation in aftercoolers when freezing difficulties arise.

23. Inspect well input hourly so that proper pressures and differentials may be maintained.

24. Full time must be given to the complete operation of the station.

No personal work of any nature whatsoever will be permitted while on duty. Automobiles must not be driven or parked within fence lines.

Confer with station inspector regarding any trouble.

Well testers are vested with authority to change compressor operations.

Notify gas lift department, if communication is possible, when any appreciable amount of gas from high pressure system is to be used, so shortage can be supplied at source.

Call gas lift office for any emergencies or trouble.

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of an operator will naturally subside after an eight-hour period of proper application of duties and for this reason three tours or shifts in 24 hours are strongly advocated, with one shift of rest per week for each operator.

In the beginning, when pioneering in the Seminole area during the fall of 1926 with the present commercially successful method of lift, and for some time thereafter, air was used as the agent for compression and injection into the wells. The greatest advantage in the use of air for lifting is the constant, unchanging, atmospheric pressure at the intake of the compressors. But it is extremely dangerous when mineral oil lubrication is employed in the compression cylinders. Air is not only more hazardous than gas in the application of the lift method of crude oil recovery but is wasteful of resources and is a direct preventive of conservation; for, when the gas is diverted to the air through the riser pipe from the separator, as must be done when air is injected into the wells, all gasoline content therein is lost forever. Heavy laden gas will also settle to the ground, the action of which presents additional measures of safety to be solved.

Stable oil is safer in stock tanks with a lessened tendency to eject high-end vapors and this characteristic is applicable to oil which has been produced by recycling gas. The cause for air being more dangerous than gas is readily understood by the statement that approximately 15 per cent of gas mixed with 85 per cent of air constitutes an explosive combination. Where a station may be compressing air, only 15 per cent of gas, which can be created from lubricating oil vapors or faulty auxiliary gas line connections to field scrubbers when pulling air through the scrubber instead of the direct intakes of the compressors, is necessary to affect an explosive mixture. While, if gas is being compressed, 85 per cent by volume of air must be taken into the system before a dangerous operating condition exists. The majority of explosions have occurred during the process of compressing air.

Safety in compressing air can be established by the use of vegetable oil, which emits no combustible vapors, for lubrication; but this practice has caused excessive valve trouble in some locations and abnormal lubrication costs in others, and, as has been stated before, defeats conservation.

Input meters located near the lift station in a common meter house lend to safety, for the operator may determine by inspection if proper conditions as specified by the production engineer obtain. It is well to state here that a sufficient number of electric lights, enclosed in vapor-proof globes with all switches placed outside the compressor room, should be advantageously located for night operation. A check valve interplaced in the input line near the well will prevent oil from filling the input line and backing up into the station in the event of a tendency to flow through the tubing during any shut down period.

An absolute rule should be established requiring the installation of a check valve in the gravitation oil line between the separator and the oil stock tanks, as the failure of the float valve on the separator has caused this to be a source of pulling air through the oil stock tank into the station and the occurrence of several explosions and subsequent loss of at least one compressor plant as well as pulling several gas tight oil stock tanks.

Relief valves on the separators or traps are necessary for the release of excessive starting pressure, while a check valve in the relief line from the separator will prevent air being pulled into the lift station from this source.

The problems of preventing fire and explosions may be summarized as:

1. Preventing gas leaks and explosive mixtures.

2. Keeping sparks or flame out of the possible gasified area.

3. Proper ventilation to dissipate gas that may escape and otherwise form combustible mixture.

A.P.I. to Check Results Of Standardization

DALLAS, May 18.—An analysis of the results of the adoption of American Petroleum Institute standard oil field equipment by the petroleum industry is being made by the Institute's Division of Standardization, Carl A. Young, director, announced at division headquarters here recently.

A questionnaire has been sent to all owners of the Institute's handbook of standard equipment and to all others interested in standardization requesting information.

J. Edgar Pew, chairman of the Institute committee on standardization, explained in a letter accompanying the questionnaire that it is desired to estimate the efficiency of the standardization program and to determine if manufacturers and users are cooperating fully in utilization of standard specifications. He added that it has been found desirable to check the extent to which equipment manufacturers are complying with standardization requirements, as some discrepancies have been found.

"It can be expected," Mr. Pew said, "especially in the early stages of the work, that unintentional errors and misinterpretations might be made, both by the manufacturers and by the purchasers; also, errors may have crept into the specifications themselves, despite the great care used by the committees in formulating the standards."

General Safety Rules Applying to Gas Engine Or Electric Stations

Care should be taken to keep all gas compressor packing glands adjusted to prevent leaks.

Magneto wires should be securely fastened so they cannot jar loose and cause an ignition leak or create a spark.

Magneto terminals should never be removed to stop an engine or while the engine is running. A spark of sufficient strength to ignite combustible vapors may result between the terminal and the spark plug or between the terminal and the base of the engine.

The preceding instruction holds true in attaching magneto terminals to a gas engine in motion.

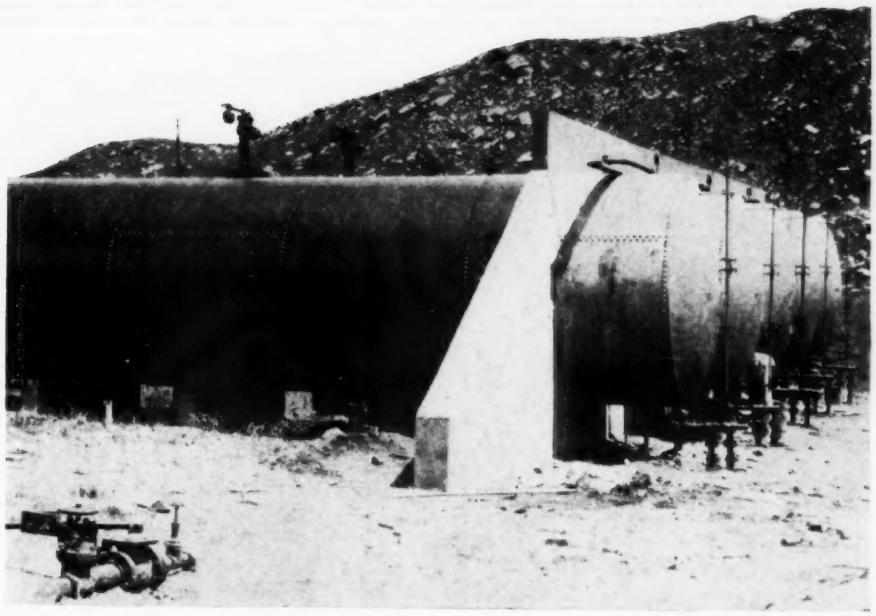
Keep a constant check for gas leaks on all gates or valves, cylinder-gaskets, and line fittings.

Where it is necessary to place boilers at all near gas compressors, a firewall should be built to divert away from the boiler fires any gas that might escape from the compressors.

Use only vapor-proof electric lighting equipment such as vapor-proof globe covers, wiring in conduit, etc.

Install all switches and fuse boxes, even though vapor-proof, outside the compressor room.

Provide ventilation that will remove the gases that may accumulate and especially the heavy gas from near the floor.



Battery of storage tanks ready for partial burial at gasoline plant. Tanks have been painted to prevent corrosion

Storage at Natural Gasoline Plants Should Hold 30 Days' Output

By G. M. Davidson*

(Presented before Natural Gasoline Association of America, Tulsa, May 21 to 23)

JUDGING by the standard of modern natural gasoline plant design, it would appear that more thought might be given to storage facilities.

The storage problem for a plant can be presented under the following headings:

1. Amount of storage capacity required.
2. Safety of the installation.
3. Most economical type of storage tanks.
4. Gauging devices, piping, fittings, etc.

When the plant product is being shipped by rail, experience from the manufacturing point of view indicates that storage should be provided for 30 days production to allow for minor irregularities in shipping schedules and transportation. This amount of reserve storage is hardly sufficient when several grades of gasoline are being made. Presumably plants with contracted outlets by pipe line deliveries need only provide storage for gauging emergency interruptions of pipe line service.

There is almost a universal adoption of the 10 x 40-foot, 50-pound test pressure, horizontal tank for natural gasoline storage. This tank is about as large as can be utilized economically. Size 11 x 42-foot tanks have been tried but are more difficult to transport, handle and install and are subject to considerable distortion when filled. The 10 x 40-foot tank has come into such common usage in the Mid-Continent that fabricators generally carry steel for the heads and shell in stock.

The shell is generally ¼-inch plate, the heads are $\frac{5}{16}$-inch dished to a radius equal to the diameter of the tank. The shell is made up in five rings. The tanks are built to withstand a hydrostatic test of 50 or 60 pounds per square inch and relief valves are set for working pressures of 20 or 25 pounds per square inch.

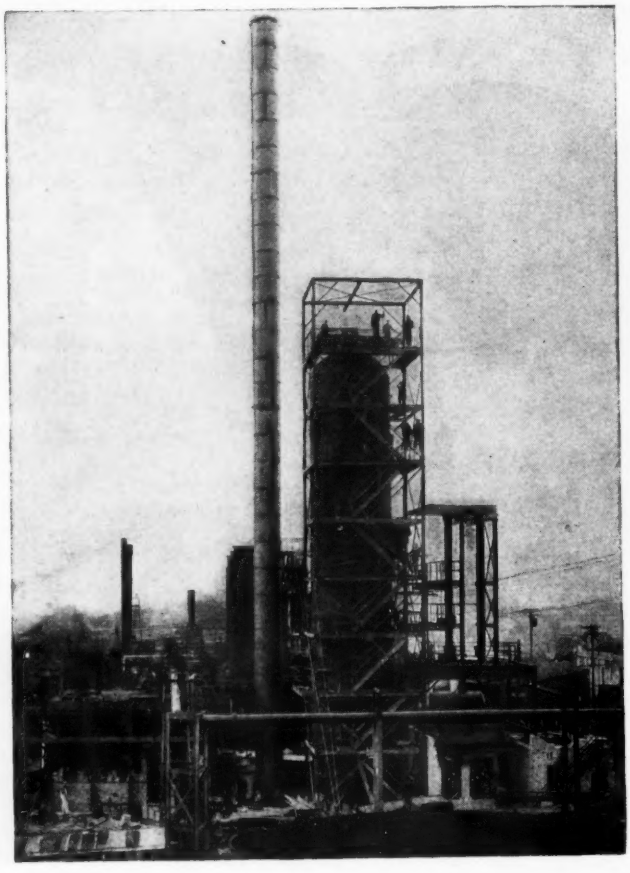
Apparently there is a big difference in opinion in the type of joints used in fabricating these tanks. Some companies specify a riveted and caulked joint. Others are depending upon a double weld lap joint and some use a combination of both. Tanks of this size are subject to distortion both in the shell and heads. Breathing of the tanks has been the source of cracking welds, and in some instances heads have parted from the shell completely.

Riveting and caulking is subject to leakage due to the flexing of the tank. Rivets must be tightened and joints recaulked whenever the tank is moved. The welding art has made some wonderful strides and there is no reason, excepting the possible lack of experience and conscientiousness of the fabricator why welding should not be used. In a combination of riveting and welding of plates used in these tanks, it is doubtful if the riveting serves for any but a safety factor in the event of a weld failure.

A tank such as described above is awkward equipment to transport. Hauling contractors are generally in demand when a plant is building in a new oil field and these tanks are not generally handled as they should be. The tank in being rolled into position will often be supported on projections from the shell such as a manhole. Manholes are necessary for fabrication and internal inspection.

THE boiler type manhole is to be preferred and the tank should be shipped with the yokes and cover inside the tank. Slow delivery generally eliminates this type of manhole. To overcome the objection of putting a projection on the shell some companies put the round external type manhole in the head. An inside and outside gas weld is recommended for this joint.

Piping flanges are provided for re-



Vacuum Distilling Units

A vacuum distilling unit designed and erected by the Foster Wheeler Corporation, is shown under construction in the above photograph.

The Foster tube still is designed to heat reduced crude from 500 to 780 deg. F. vaporizing the entire throughput with the exception of about 7 percent asphalt bottoms. The tower operates under approximately 28 in. of vacuum and continuously recovers gas oil, pressable paraffin distillate and cylinder stock as overhead products.

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lief valves and connections for filling, emptying, water drainage, and collecting of vapors. As a rule the tanks are gauged with the use of gauge glasses. Care should be exercised to see that the collars welded in for this purpose are horizontal. They should be located on the tank itself and spaced so as to provide for a standard length gauge glass.

Accurate gauges are difficult to obtain when the gasoline in the tank is unstable. Bubbles forming in the gauge glass will vary the apparent liquid level. In an attempt to eliminate this difficulty some companies have used gauge glasses on a vertical pipe which was connected to the bottom and top of the tank. Gauges with such an arrangement are often in error. Floats and measuring tapes have been tried but seem to be unreliable.

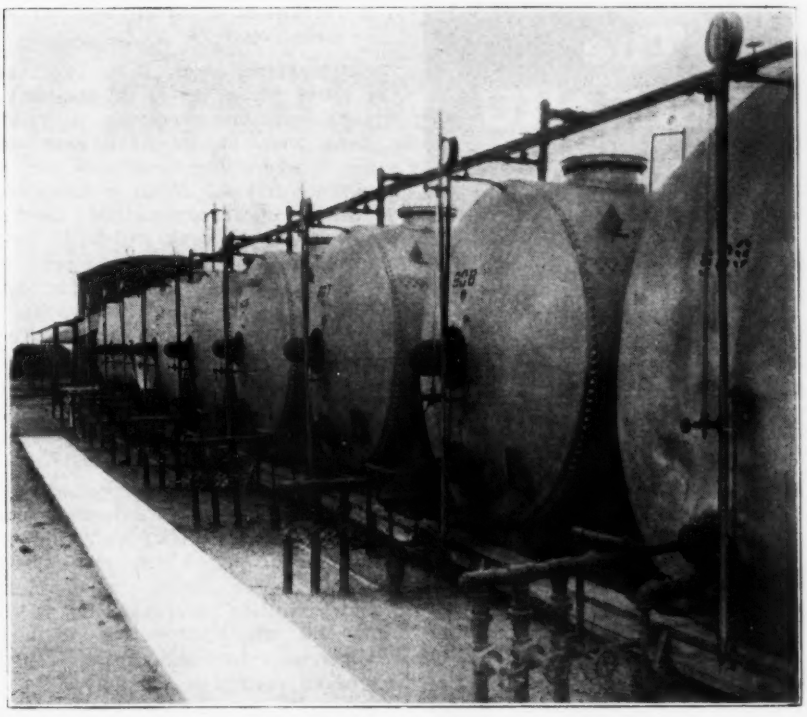
ONE of the best forms of tank gauging devices is a tube projecting through a packing gland at the top of the tank. A pet cock at the top is opened when gauging and the liquid level is noted when the bottom of the tube is at the liquid surface, noted when gasoline flows from the valve. For convenience two tubes are used, one measuring the upper five feet of the tank, the other the lower five feet.

Manufacturers of these tanks suggest five supports in setting such tanks. In general only four are used, and where there is even bearing that number will serve satisfactorily. Supports are usually made of concrete about 12 inches thick and extend 1/4 to 1/3 the circumference of the tank. Due to the possibilities of corrosion and to take up minor unevenness of bearing several sheets of tar paper should be used between the support and the tank. Steel saddles can be used which fit the periphery of the tank and rest upon a level pier. Tanks generally outlast the plant and these saddles have the merit of reclaim value.

The tanks should be given a coat of metal-preserving paint which if put on at the top should be specified as to kind and manner of application. The tanks should be given a final coat of paint which will reflect heat.

Insulation has been tried on such tanks and found to have a material effect in reducing losses. Insulating with hair felt or asbestos is an expensive job. Some manufacturers are covering their storage with earth which makes an excellent insulator though great care should be exercised to protect the tanks against corrosion.

It is the practice with a number of companies to correct all tank gauges for temperature. In this connection it should be noted that the temperature changes affecting the volume of the tank content also changes the dimensions of the tank to affect a small correction. The distortion of the tank due to the liquid head is another factor affecting the calculated gauge table.



Battery of storage tanks painted with aluminum. Tanks are provided with double gauge glass system and pressure indicators

Recommendations for Safety

The matter of first consideration is the location of the storage with respect to the plant. It should be removed as far as possible, preferably on a lower level. The joint at the shell and head is the weakest part of the tank and in all probability would be the first to part.

For what added time it would mean in case a head joint failed completely it might be advisable to install the tanks so that the contents will not be directed toward the plant nor homes. Fire walls have not been used generally in the Mid-Continent but should be considered. Automatic safety gauge cocks have proven worthwhile in fires.

Relief valves should be given more serious considerations. Relief valves have been provided generally for relieving excess vapor pressure of the contents and for excess pressure due to operation. For these circumstances a 2-inch relief valve has served. The destruction and personnel risk in the possibilities of a fire appears to warrant relief valves to meet this situation.

The Bureau of Explosives through John F. Fetterly has published a bulletin entitled, "The Determination of the Relief Dimensions for Safety Valves on Containers in Which Liquefied Gas is Charged and Where the Exterior Surface of the Container is Exposed to a Temperature of 1200 degrees F."

This formula is given for uninsulated containers as

$$A = \frac{(B \times 3.1416 \times U \text{ plus } 2E \times C \times t_1 \text{ minus } T_2}{L \times P \times 50} \sqrt{\frac{W_2}{W_1}}$$

A = Relief area of the safety valve.
D x 3.1416 x N x Sine valve seat angle.
B = Outside diameter of the container in feet.
E = End area of the tank.
U = Length of the container in feet.
C = Heat transfer in B.T.U. per sq. ft. per hour per degree Fahrenheit temperature difference between 1200° F. and the temperature of the container contents when at the pressure at which the safety valve is set to open.

$$C = \frac{T_1 \text{ minus } T_2}{A}$$

T_1 = Temperature in degrees F. at outside of container.
T_2 = Temperature in degrees F. of contents of the container when at the pressure at which the valve is set to open.
W_2 = Density of steam in pounds per cu. ft. at relief pressure.
W_1 = Density of vapors in pounds per cu. ft. at relief pressure.
W = The latent heat of vaporization of the liquid portion of gas in B.T.U. per pound weight of relief pressure.
P = Absolute pressure per sq. inch at which relief valve is set to open.
D = Diameter of safety valve.
N = Lift of valve in inches.
A = 62.5 plus 20 T.

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T = Thickness of steel wall of the container.

Calculations show that two tank car relief valves set at 25 pounds per square inch are necessary to relieve a tank such as we have been considering under the conditions and assumptions made. With a knowledge of the spring characteristics used in these valves the tank will build up to a pressure of about 37 pounds relieving the tank with a venting area of 32 square inches. The two valves may be connected to the tank with a 6-inch pipe, if not too long, and yet the valves should be removed far enough from the tank so that heat from the vapors if ignited will not cause adjacent tanks to relieve.

Tanks such as are in general use will not stand any external pressure and vacuum relief valves should be provided. A 2-inch check valve generally serves for this purpose, the only precaution necessary is to install one where operation will not be prevented by condensation collecting and freezing at the valves.

The piping should be designed to give some flexibility. Overhead piping is generally more subject to expansion than the piping underground, but consideration must be given the fact that tanks will settle unevenly. Several fires have occurred from fittings breaking because of pipe strains and more general use should be made of expansion or flexible pipe joints, particularly where more than four or five tanks are put in the same battery.

Probably every company has had some experience in finding a different grade of gasoline in the tank car than in the tank and has traced it to the absorption of lighter hydrocarbons when pressure was put on the tank with residue gas. Air has been used with a risk. Flue gas should serve for this purpose.

Larger Volume Storage Tanks

THE construction of large containers capable of withstanding pressure has long been a problem confronting structural engineers. One of the obvious ways of designing a larger container is to expand the type of storage now in use. Considerable difficulty is encountered in such a design. Supporting such a type of tank is a problem. If the diameter is large the shell must be stiffened to prevent distortion. There is therefore a definite economic limit to the size of the horizontal cylinder container which we can use.

A pressure container was designed some years ago in the shape of an elevated cylindrical tank with an ellipsoidal bottom and top. The natural evolution from this was the spherical tank. This structure was elevated on columns attached to the sphere at the horizontal equator. Relatively heavy construction was employed in the support and stiffening was necessary in the tank. The bottom of the tank was subjected to the gas pressure and the total head of the liquid.

These tanks were generally successful and probably cost was the factor which prevented their more common use. There is no shape which will be entirely free of tendencies toward deformation when subject to the varying stresses of a gas pressure and varying liquid head. However, it is evident that the particular structure which will be most free from tendencies to deform would be approximately the shape taken by the flexible container under the conditions of the combination of gas and liquid loads.

THE simplest way to illustrate what this shape would be is to fill a rubber balloon with water and place it on a flat surface. It would be seen that the shape taken is that of a spheroid, circular in plan and flattened on the bottom. If a rubber balloon of comparatively thin material is used and the gas pressure is relatively small, the shape will be comparatively large in diameter when compared to height.

If the balloon used is of thick rubber and the gas pressure is relatively higher, the form taken is that more nearly a sphere. Such a tank, called the Horton Spheroid has recently been designed. This tank has the least tendency to deform of any shape and the roof and bottom as well as the shell are all used in approximately uniform stress, consequently it is a relatively economical tank to build.

Another pressure container designed by Allen Van Rensselaer is of interest. The container is a vertical steel cylinder and bottomless. A light steel roof is placed in the cylinder some distance from the top. A stand pipe opening below the roof extends some distance from the container. The cylinder is built concentrically within a concrete basin below ground and is supported above the concrete floor by piers about its periphery. This concrete auxiliary tank is called the lower basin.

The upper basin is contained within a circular fire wall placed some distance from the container. When the container is not used for gasoline storage a water level is carried slightly above the roof line. As gasoline is pumped into the container a hydrostatic balance is maintained on both sides of the roof by pumping water into the container above the roof.

The pressure on the gasoline is equivalent to the hydrostatic head of gasoline in the stand pipe. The pressures are balanced either automatically or normally. One of the obvious advantages of this container is that the gasoline is entirely surrounded with water and evaporation losses

should be very small. There is no vapor space on the gasoline surface excepting in the stand pipe.

In certain situations refrigeration may be resorted to in using light weight steel storage for holding natural gasoline. If spare compressing capacity is available, the use of propane as a refrigerant in a compression expansion cycle is possible, in holding down the temperature of the contents of the tank, to the point where the vapor pressure is low enough to prevent serious evaporation.

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300 Crudes Analyzed

WASHINGTON, May 17.—The results of analyses of more than 300 representative crude oils of the United States are published in bulletin 291 by the U. S. Bureau of Mines, Department of Commerce. Oil samples from Alaska, Arkansas, California, Colorado, Illinois, Indiana, Kansas, Kentucky, Louisiana, Montana, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Texas, Utah, West Virginia and Wyoming are discussed in the report. N. A. C. Smith and E. C. Lane are authors of the bulletin. Copies of the bulletin may be obtained for 15 cents from the Superintendent of Documents, Government Printing Office, Washington.

TULSA, May 18.—The Zero Hour Torpedo Co. here has put out what it calls the "last word in oil well time bombs." It is known as the Duplex model for exploding oil wells with nitroglycerin. It contains two watches, each connected through a separate circuit to two blasting caps, connected together in parallel, giving the bomb two timing mechanisms enclosed in the same metal, fluid-tight container which formerly held only one. The possibility of failure of the bomb is remote, the company claims, saying that there are three highly improbable combinations of circumstances necessary to effect a failure.

Monopolin, the special gasoline-alcohol mixture introduced to motorists in Germany, is growing in demand. Its sale is being handled by a number of companies. Formerly two have had selling rights.

Production in the Turner Valley oil field in Canada during March was 56,781 barrels, which is a new peak for that field. This surpasses December's record of 48,600 barrels by 8181 barrels.

Porto Rico imported 22,657,332 gallons of gasoline from the United States in 1928; 3,048,889 gallons of kerosene; 43,159,933 gallons of fuel oil and 835,788 of lubricating oil.

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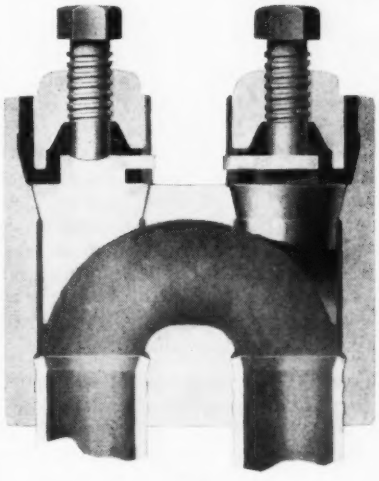

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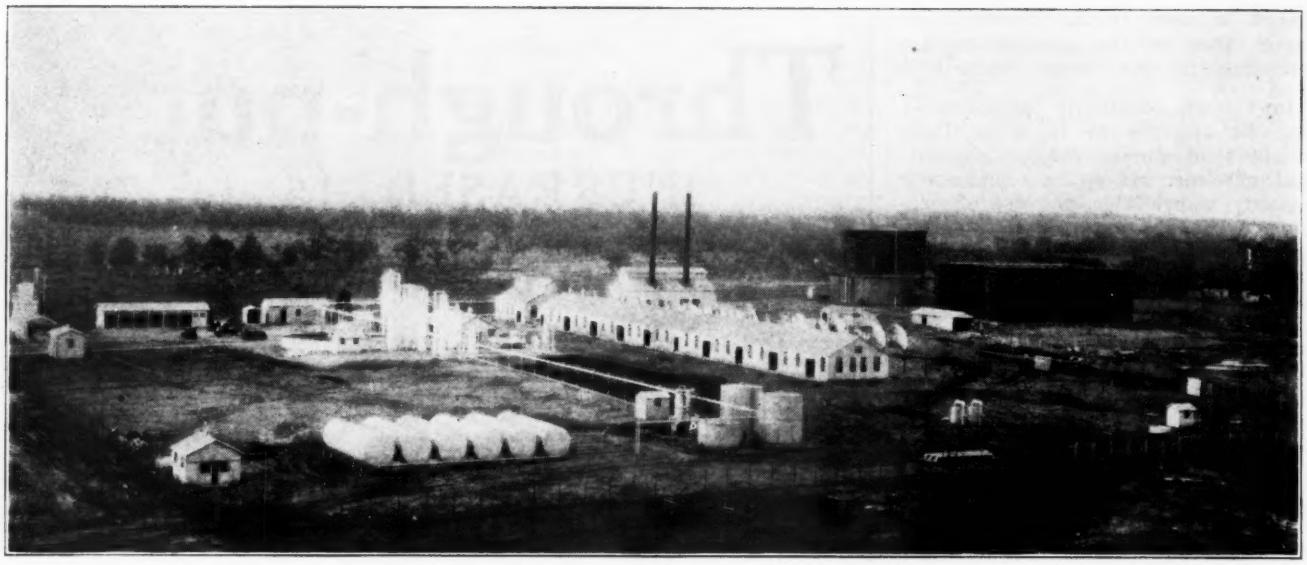
Detroit—304 Blvd. Temple Bldg.
Cleveland—1310 Terminal Tower Bldg.

OHIOLOCK

Specify "frictionless"

RETURN BENDS



Typical modern gasoline plant in the Seminole District

Wise Building, Product Control and Service Aid Proper Marketing

By A. T. Sherer*

(Read before Natural Gasoline Association of America, Tulsa, May 21-23)

THIS paper is intended to cover in the abstract the procedures and practices of the Natural Gasoline Industry in so far as they affect the marketing of its commodities, and particularly to set out existing policies and practices for the guidance of newcomers. Such features as plant control and laboratory control are sketched only from a marketing viewpoint.

Expectancy of Profits from Natural Gasoline Plants

Deserving of primary and possibly prime mention, seems to be the industry's policies with reference to the inception of a plant. Major companies have long since refused to be governed by the old idea that a plant must be constructed whenever and wherever a quantity of gas becomes available.

Better understanding of the marketing of our products has lead to a better understanding of just what constitutes a profitable construction program. Plants are no longer built just to knock a certain percentage of liquid out of a given amount of gas without regard to its quality or marketability. Nor are plants built without the assurance of a continued gas supply commensurate with the investment.

We are ill-advised if we draw up our construction program based upon the current markets of September or March, and just as poorly advised if we base our program upon the markets of 1922 or 1928, or any other year. While markets are discussed at great length in connection with a proposed plant, in my opinion, deserving of more earnest consideration than markets, are a multitude of other factors, such as existing and potential gas supply, relative cost per gallon of construction, operation and treating, freight rates, marketing connections, etc.

I would say that plants constructed without the proper consideration of the foregoing have kept more of them in the red than so-called low markets.

It has often been proved that haphazard, ill-advised or promiscuous construction programs carry their own hang-over of periodical low markets. I say "Periodical" because it is known that markets based upon the average cost of producing any commodity affected by the law of supply and demand will, over a period, become adjusted to a fair operating level.

Human nature, capital and ambition all conspire to either build and operate, or discourage the building of, dismantle and junk the facilities of supply whenever the net-back is respectively higher than accepted expectancy, or lower than the cost of production.

Good judgment, therefore, dictates that inasmuch as we have available for mathematical determination factors affecting the cost per gallon of supply, as a guide on one side, and are forced to admit that markets will not exceed a net-back over a period of more than a fair return on our most diligent construction operation and marketing efforts on the other side, it may be written that, over a period no plant which is not the result of a combination of thorough study, good judgment and maximum efficiency will survive economically.

Uniform Plant Control

EFFICIENT marketing of our commodities depends greatly upon uniform plant control. I would rather refer to that which operating departments designate "uniform plant control" as "Controlled plant flexibility." Merchandising our commodities becomes exceedingly more simple and profitable when the plant is so constructed and manned that it may readily, and without loss of production or efficiency, be adjusted to seasonal or over-night atmospheric temperature changes, temporary shortages of gas or water, shut-downs, or conversion from the production of one grade to another.

Without controlled flexibility it ap-

*Sinclair Oil & Gas Co., Tulsa.

Every refiner who sells a barrel of heavy fuel oil at a ruinously low price, in effect sells 25 gallons of gasoline at that low price

Such a barrel of fuel oil can be made to produce 25 or more gallons of premium anti-knock gasoline if cracked in the Dubbs Cracking Process by the non-residuum method

And the by-product, coke, will almost pay for the cost of conversion

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

pears that flexibility instead of control predominates, and uncontrolled flexibility absorbs a full measure of potential profits. The production of either large or small plants, marketed directly or through outside channels, frequently becomes distressed, not by reason of the fact that it is natural gasoline, but more particularly by reason of the fact that it is one or the other of the grades.

A SEASONAL intermission in refinery inquiries and commitments often finds our marketing facilities heavy with one grade while contract requirements and commitments have created a shortage of another. At such times the seasonal price differential becomes out of line. For instance, a temporary healthy demand for Grade "C" brings the price on that grade to a small fraction of a cent under "BB" and "AA" and almost immediately refiners having a preference for the higher recovery grades will revise their inquiries.

Within a surprisingly short time the seasonal differential is back into existence. It would seem desirable then to have sufficient flexibility of control to enable us to convert our current production from one to another grade instead of hewing to the line until uneconomical disparity exists between the prices of the various grades.

Also, the buyer would be better satisfied and more likely to buy the grade best suited to his particular natural gasoline requirements if he were fairly certain that a differential which exists today would remain substantially the same over 30 to 60 days.

Atmospheric temperatures influence the percentage of light ends which may be recovered, but controlled plant flexibility will do much to overcome the irregularities in the finished gasoline.

Laboratory Control

I recently made the remark to one of our operators that I remembered the time when laboratory control amounted to checking the residue gases and making a distillation of the finished product, and that the operating department was promptly romped upon with reference to the per cent of gasoline remaining in the tail gases, while the sales department was handed the results of the distillation with the instructions to dispose of the cargo "as is."

This operator countered to the effect that I was probably a novice in the business and volunteered that laboratory control in the old days amounted to merely an attempt to determine within a few points of the color, with the hope that it would be somewhere around 20-22, and an attempt to determine the end point of the product within 50-75 degrees of correct.

After this was done, he advised, the only remaining interest of the laboratory was to determine how much of the finished product could be captured and held under the existing regulations in a Class 4 insulated car.

Laboratory control now amounts to a thorough familiarity with components of raw gas, the make-up and break-down of the absorption mediums, the exact reaction of all contacts in, through and beyond the plant, and a chemical understanding of the finished gasoline. However, the above enumerated performances cover only the high spots, others comprise research in the field of potential by-products, new markets for materials of present specifications and new specifications for the demand of present markets.

The efficient laboratory exerts an effort toward the reduction of both the handling and treating losses and handling and treating costs, and adds generally to the efficient operation of the plant.

The operator who once felt that the laboratory was merely for the purpose of checking the results of his operations now finds his operations predicted on the results obtained in the laboratory, and finds therein a means of recovering the suspended fractions of a cent per gallon otherwise destined to remain lost.

* * *

In one sweeping statement we might say that upon the efficiency and effectiveness of laboratory control often depends the difference between a profit and loss figure on the financial statement.

OUR Natural Gasoline Association has been a most effective means toward the attainment of uniform laboratory control. The association has been able to concentrate the observations of many and devise therefrom one uniform and acceptable method of test. Further, we have standardized our grades to specifications incorporating observations and determinations representing the most desirable characteristics in the finished product.

No acts or actions on our part have been of so much consequence in the marketing of our products as the development of these testing methods and the institution of grades. It would seem, therefore, that continued proper merchandising depends greatly upon our continued efforts toward further simplifying and perfecting our specifications and methods of testing; and determining just which characteristics are most desirable to the consumer in the finished product. We should not be slow to incorporate or eliminate from time to time, such specifications as may be determined desirable or superfluous.

* * *

Outages in Transit

Outage in transit has also commanded its share of attention of operators for years and our losses in transit have been considerably reduced. As recently as 3 years ago, 10 to 14 inches out of the car upon its arrival at destination were not uncommon, and particularly during certain seasons of the year, or upon movements to points where relatively higher atmospheric temperature prevailed.

SOME operators in our industry advise that they have observed that outages in transit amount to a greater percentage of the total contents of the car during early spring and late fall and volunteered the opinion that during these seasons the wide range between the daylight and night-time temperatures causes breathing and accordingly greater outages than during extremely hot weather when temperatures show a lesser variation between daytime and night-time.

Our own company records do not disclose any marked rule by which we may be guided in allowing outage deductions. In fact it seems that as a rule irregularity rather than regularity predominates. We have noted that two cars, loaded out of the same stock, moved from the same origin, in cars of supposedly the same physical condition, have arrived at destination, simultaneously, one shell full and the other with several inches out.

Our own records over several years on cars rolling from various origins to various destinations discloses the existence of extreme irregularity but happily also indicate a decided trend toward lower outages. Our transit losses have been decreasing yearly for the past 3 or 4 years, and we expect this year to show a greater percentage of decline than previously.

Many factors of course enter into this—refiners have greatly improved their unloading facilities and methods of handling natural gasoline at destination, proportionately less low recovery material is being shipped; and the loading man has been trained not only how to load but also how to maintain the maximum load to destination, by closely checking the condition of the cars and safety valves.

Patented dome covers and safety valves, etc., so constructed as to simplify loading operations and minimize losses of time, labor and commodity are available and desirable. However the efficiency of such devices depends upon the specific operating condition of the plant, such as characteristics and grade of gasoline produced, loading facilities and other

conditions. Each manufacturer should determine the desirability of this added equipment and keep his tank cars in such repair and his equipment so regulated as to reduce possibilities of excessive outage, bad-order throw-outs, in-transit repairs, etc.

It is the policy of the industry to allow all outage. This guarantee of quantity at destination is qualified however upon proper and prompt handling by consignee. If for reasons not due to the acts of the shipper, a car is held under load by consignee for a period longer than 24 hours before gauging, the consignee should absorb such outage as appears in excess of normal outage based upon gauges of other cars handled promptly and under similar atmospheric and physical conditions.

In many instances cars so held beyond the 24-hour gauging period allowed, are likewise not unloaded within the 48-hour unloading period, the detention of equipment therefore causing the shipper further loss. In some instances this loss is negligible, amounting only to the loss of potential mileage earnings, however instances are frequent when car detention at several destinations simultaneously forces the manufacturer to rent cars at a high-trip rate to immediately relieve storage.

The storage facilities of the natural gasoline industry are pitifully inadequate, particularly in the districts where large flush production exists. This is due probably to the fact that it is not economically advisable to erect pressure storage to handle and immediate production which is not certain to be maintained over a period.

Plants not having sufficient storage to protect their production must have insurance in for of excess tank car facilities against probable delay due to transit irregularities, longer than average hauls, or possible forced detention by consignee. Where consignee holds cars, for any reason, in excess of 48 hours he should notify shipper and arrange to have outage checked within 24 hours and accept the liability of damage or expense to shipper occasioned by delayed return of equipment.

Specifications and Off-Specification Claims

SPECIFICATIONS are also guaranteed at destination. Any difference of barometric pressure, atmospheric temperatures, etc., existing at destination must be allowed for at origin since the commodity is guaranteed at destination. Many independent laboratories and services are available to both parties if the necessity for joint inspection develops.

It is preferable, however, to have your own laboratory attendants make the check test with the consignee's chemist. Any irregularity of either's equipment or methods thereby becomes observed and a repetition of the error avoided.

Frequently the error develops into a matter of only the difference in human element in procedures or readings and is easily arbitrated.

Under our present regulations of distillation procedure, a difference of 30-50 degrees in the end point is possible by the use of the electric heater instead of the gas flame. Such differences are not easily adjusted and no settlement can be made entirely satisfactory to both parties.

This condition merits the immediate and serious attention of our association and my previous plea for further simplification and revision of test methods and specifications is repeated here.

The adjusting of off-specification claims is a matter of specific occurrence. Each claim must be handled upon its own merits. An off-color or off-doctor car at the unloading rack may represent a complete loss to the consignee not having facilities for re-running or treating same, whereas the second consignee may either have such facilities or be using such a small percentage of naturals that he could absorb the car at negligible loss. In fact so many different conditions exist that each off-specification claim is a matter of the moment and said claim must be handled as a separate and specific adjustment, subject to current conditions, operations, facilities and requirements of the consignee.

Primarily we must remember that while it may seem easier to divert the car, such action may seriously damage the refiner whose immediate requirements are thereby not served, and whose position as a consumer of naturals may be hazarded. Reliable shippers will consider the refiner's requirements and be governed accordingly in the settlement of claims or the diversion of the material. We have found reliable and responsible buyers of naturals to be equally fair in their treatment of us and we feel that an honest understanding of each other's problems and operating conditions is the greatest one factor contributing to satisfactory adjustments.

Marketing

To me marketing is figuratively "The end of the rope." A leader in our industry said in discussion about a year ago. "Our marketing practices are the laughing stock of the country."

This man must have felt that there was room for improvement in our marketing practices, and I believe we are all in accord there. No doubt there always will be room for improvement and hesitating to adopt apparently constructive policies that later need to be revised is neither progressive nor educational. Experiencing the result of a poor policy at least broadens our capacity for determining a better policy.

However, I believe and am willing to go on record as considering our marketing practices and policies as subordinate to our operating practices and policies. If marketing is "The end of the rope," producing is the rope and little can be at the end of a poor rope.

Our marketing problems, meriting as they do our sincere study and severe application will remain unsolved so long as our production continues in excess of our current and prospective consumption requirements. Seasonal overproduction of our products is profitable and necessary but yearly overproduction is disastrous. Storage is necessary and reserves are essential but no marketing practice can be instituted which will survive a production in excess of current and prospective consumption plus seasonal storage and protective reserves.

MY IDEA of an economic monstrosity is an industry which over a period expects to be able to market its commodity in such a manner as to continue in a good financial position while maintaining a supply in excess of demand.

But I am not evading the issue of proper marketing, I am merely qualifying the word "proper," feeling as I do that marketing at a loss, while not "proper" is frequently efficient marketing and darn good selling, considering the existence of an over-supply for which there is no demand. We have frequently heard the remark that "price is no object, the stuff isn't moving." What folly then to suppose that proper marketing can overcome improper regard for the old law of supply and demand.

Proper marketing is merchandising. Therefore, merchandise your commodity and follow the old precept of doing unto others as you would have them do unto you. If it comes to drawing up a code which merely recites a list of acts that you do not wish to do unto others and do not wish to have others do unto you, and agreement can be reached as to which acts are admittedly unfair, then a code is good.

If each company however can unqualifiedly say that it is not engaging in any practice of marketing to which it would object in others, and if its practices are showing up to the credit of the industry in which it operates, and to the satisfaction of stockholders and executives of vision, it is merchandising. On the contrary, when the manufacturer throws material into an unreceptive market, trying to beat the gun of weakening tendencies, and engages in unethical practices, he not only is sacrificing the industry to his immediate advantage but also to his own permanent loss.

Proper merchandising is a coordination of—

Wise Construction Programs
Flexible Plant Control
Efficient Laboratory Control
Service to Suit the Consumer, and
Proper Marketing.

COOPER AND BESSEMER

UNITED FOR SINGLE PURPOSE

The C. & G. Cooper Company and the Bessemer Gas Engine Company have combined for one, single, primary reason: to offer the Oil and Gas Industry greater service and greater engine values than ever before obtainable at any price.

ELIMINATES DUPLICATION OF EXPENSE

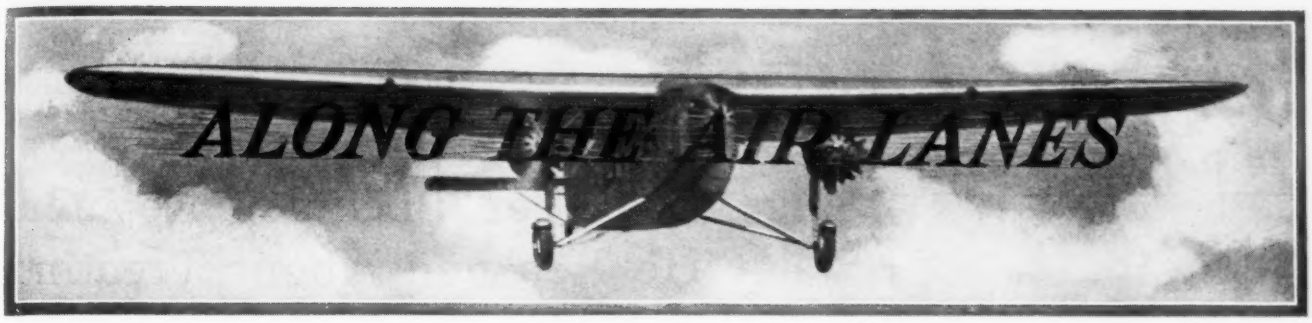
Recently there has been a tendency for the Cooper and Bessemer lines to overlap. Now, by consolidation of companies, this duplication of expense is eliminated. Power users are bound to profit from the resulting economies in manufacturing, engineering and sales costs. Rapid strides will be made in the way of research, engineering, and field service.

COMPANIES MERGED AT HEIGHT

The merger found the Cooper company and the Bessemer company at the high point of their individual business success. Bessemer had just completed its largest month's production in history. Cooper had just secured the largest single order ever placed for gas engines—18,000 horse power.

127 YEARS' COMBINED EXPERIENCE

With Cooper's 96 years of engine-building, and Bessemer's 31 years, The Cooper-Bessemer Corporation inherits a combined experience of 127 years. Cooper has long been the leader in the 4-cycle engine field, especially for service in the natural gas and oil industry. Bessemer has held an equally strong position in the pumping and drilling engine and the 2-cycle compressor



When officials of the Standard Oil Co. of Ohio visited the Ranger field in Texas recently, they cut down the time of their return trip just one-third by flying from Fort Worth back to Cleveland.

Actual flying time for this trip of 1272 miles was 10 hours and 42 minutes, which is at the rate of 118.8 miles per hour. The fastest time that could have been made by train was 33 hours.

A. M. Maxwell, vice president in charge of sales for the Standard, an experienced air traveler, was one of the passengers. He, along with George S. Burke, also a vice president of the same company, inspected the Ranger field which is the source of the crude from which the new Sohio motor oil is made.

The Texas Pacific Coal & Oil Co., Fort Worth, was host to Mr. Maxwell and Mr. Burke during their visit in the southwest, and it was in the company's Ryan monoplane that the flight back to Cleveland was made.

George B. Freddell, vice president in charge of aviation motor oil sales, of the Texas Pacific company, was another passenger. "Buddy" Jones piloted the plane.

This monoplane was purchased by the latter company about 10 months ago. In that time Mr. Freddell has traveled about 40,000 miles calling on customers.

Not all duties performed by oil company airplanes have been in the interests of the company nor for mere mercenary returns.

One of the most important and humane services that any company operating airplanes has accomplished was that of the Naturaline Co. of America, Tulsa, during the Alabama flood some months ago.

When the flood cut off all communication through the state, the Naturaline company's Buhl Airsedan happened to be on the Atlanta flying field.

Fred L. Foster, sales representative for the company, then in Washington, wired Bibb Graves, governor of Alabama, offering the use of the plane in flood relief work. That offer was immediately accepted.

Inasmuch as this airplane was about the only means of communication with some of the stricken districts, it is to the Naturaline company's credit that suffering was alleviated with the medicine, food and clothing brought by it.

On one landing, two National Guardsmen were found injured and they were put into the plane and taken to Montgomery, Ala. for surgical attention.

Ralph Montee piloted the plane to isolated districts in the flooded area, distributing food, blankets, medicine and other necessities.

A letter of appreciation from Governor Graves has been received by the company for the help given in this disaster.

This particular plane of the Naturaline fleet has one of the longest mileage records of any in the country, and probably has landed at more airports than any other privately-operated commercial plane. It is Mr. Foster's office and his sole means of transportation over the country in selling "Naturaline" aviation fuel to the country's airports.

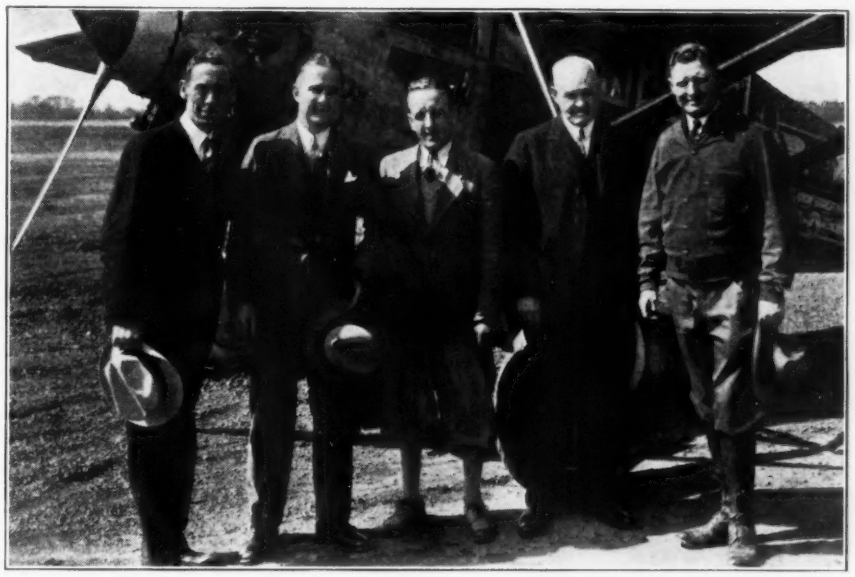
When the German airship Graf Zeppelin started on her second voyage to the United States on May 16, the news was to be broadcast to the world by the Columbia Broadcasting System in cooperation with the Tide Water Oil Co., New York.

Veedol, Tide Water company's motor oil, is used in the five Maybach motors of this world-famous airship.

The Graf Zeppelin started from Friederickshafen with Dr. Hugo Eckener in command. F. E. Nicholson, novelist and special writer, was among the passengers who sent daily dispatches, which was in turn broadcast over 20 or more stations.

The Tide Water company said that Dr. Eckener will appear before the "mike" to tell the story of the trip to all radio listeners as soon as the Graf is moored at Lakehurst, N. J.

An airport directory, listing all cities having airports in the United States, Mexico, West Indies, and in Europe, has been published by the Nomad Information Bureau.



A. M. Maxwell, vice president in charge of sales for the Standard Oil Co. of Ohio, Cleveland, second from the left, and George S. Burke, also vice president of that company, fourth, returning to Cleveland from Fort Worth, having traveled 1272 miles in 10:42 hours actual flying time. Others in the group are: George B. Freddell, vice president, Texas Pacific Coal & Oil Co., Fort Worth, first; "Buddy Jones," pilot, third; and Major Berry, superintendent of the Cleveland airport, fifth

West Texas

R. S. Petersen

Sales Engineer Becomes Refiner, What He Learned About Treating

By Paul Truesdell
N. P. N. STAFF WRITER

Article 4

CLEVELAND, May 17

PLENTY of time.

That is what it takes to treat to acceptable sulfur specification the gasoline made from West Texas crude at a reasonable cost for chemicals, according to the findings of R. S. Petersen, president and refinery general manager of the Big Spring Refining Co., Big Spring, Tex.

Two big problems confronted Mr. Petersen in treating his gasoline. One was to remove the hydrogen sulfide to get rid of corrosion and the other was to remove the mercaptans and other sulfur compounds so as to make his gasoline sweet to the doctor test.

The first thing to do in treating is to remove the hydrogen sulfide. This can be done satisfactorily with caustic soda if it is done properly, he discovered. Here is one place where the time element enters in. Just a short time of mixing the caustic with the gasoline will not do the work, Mr. Petersen found. Now he gets the desired result most of the time by using the run down tank as a treating tank for the gasoline.

He keeps a layer of strong caustic solution several feet deep in the bottom of the gasoline run down tank and the gasoline from the condensers enters the tank below the level of the treating reagent. Thus it is pretty well contacted with it as the gasoline surges up through the soda solution.

Generally it is found at this plant that the hydrogen sulfide is nearly or quite all removed by the time the gasoline is withdrawn from the caustic run down tank for doctor treatment. The usual consumption now of caustic is about 700 pounds to 2000 barrels of gasoline treated.

It is very important, according to Mr. Petersen, that all the hydrogen sulfide be removed from the gasoline before the doctor treat is given. If it is not, he says it will take an excessive amount of doctor solution to sweeten the product and it may not be possible to sweeten it at all.

So before any gasoline is withdrawn from the rundown tank at the Big Spring plant, it is tested for hydrogen sulfide. Lead acetate is the reagent used for making the test. If H_2S is shown to be present, the gasoline is pumped into an open tank set up for the purpose, and given another shot of caustic until it shows negative to the lead acetate.

If there is hydrogen sulfide in the gasoline when the doctor solution is introduced, the latter fails to react properly with the mercaptans and instead tends to combine with the H_2S, according to Mr. Petersen.

At his plant the doctor treating is done in a batch agitator, the gasoline being pumped in, the doctor solution

Typical West Texas landscape, showing the barren country where a major refining group has sprung up within the past year

added and the mixture agitated with compressed air. In the doctor treating, too, the time element has been found to be an important factor.

Mr. Petersen has found out, as have other refiners of West Texas crude, that unless sufficient time is allowed for the reaction to be completed, it is necessary to use so much flowers of sulfur to knock down the doctor solution that the sulfur test of the finished gasoline will be thrown off. When a longer time of mixing is taken, much less sulfur is sufficient to settle out the treating solution, it is stated. About 16 pounds of doctor solution is being used to 250 barrels of gasoline at the Big Spring plant.

The particular crude on which Mr. Petersen's plant is operating contains plenty of sulfur—about 2 per cent, he states.

THE Big Spring Refining Co.'s plant is the smallest of the four refineries which are rapidly making an important refining center of Big Spring, but it is by no means the least interesting. The other four plants in the town are: Cosden & Co., 12,500 barrels; Great West Refining Co., 8000 barrels and Richardson Refining Co., 6000 barrels. The Big Spring plant is running only 2500 barrels a day.

The equipment at this plant consists of a pipe still, flash tank and bubble tower and two horizontal return tubular boilers rated at 150 horsepower each, with run down tanks, treating agitator, and the necessary auxiliary equipment. Refining is generally an out of door operation but here it is more so than at most plants.

There is a frame building for an office where the paper work is done but all the equipment is out in the weather. Even the boilers and the pumps have no roof over them. The receiving house is of sheet steel construction but a side has been removed from it to prevent the collection of hydrogen sulfide gas and possible poisoning of men.

Mr. Petersen is an old timer in the Big Spring refining field as time is measured in this new territory. He has been running his plant since last October. In order to get a better sidelight on what he has done and what he is doing, it may be well to introduce him.

It is a far jump from the sidewalks and pavements of Chicago to the sands and windstorms of West Texas but Mr. Petersen made the jump and is living with his wife and young son in a comfortable house in the sandy and mesquite-grown outskirts of Big Spring.

Born and brought up in Chicago, Mr. Petersen was educated in mechanical engineering at Northwestern University. Coming out of school, he went to work with the Universal

For Refineries and Gas Plants

Tycos Temperature Regulators

In oil refineries and gasoline plants where temperature is a factor and automatic regulation is possible, TYCOS temperature instruments find extensive and varied applications. On gas fired crude oil treaters, gas fired crude oil stills, steam stills, bubble towers, wax sweaters, etc., TYCOS TEMPERATURE REGULATORS will insure that uniformity in production and consistency in process operation which tend towards greater yields, higher efficiency and standardization in crude oil refining and gasoline manufacture.

The most experienced operator can compensate for variations in temperature only after such changes are indicated on a thermometer or gauge. TYCOS AUTOMATIC TEMPERATURE REGULATORS anticipate changing temperatures and compensate for them automatically.

The use of TYCOS TEMPERATURE REGULATORS insures a consistently high grade uniform product, by reproducing the same temperature conditions for each run. The regulators are applicable in standard ranges for controlling temperatures from —40° to 1000° F.

The action of the TYCOS REGULATOR is essentially a throttling control where the diaphragm valve is partially open to only such an extent as is necessary to admit the required amount of heating or cooling medium to the system under control.

TYCOS DIAPHRAGM CONTROL VALVES are available in the "V" port construction or graduated opening type.

Our experience covering over seventy-five years in instrument manufacture and applying these instruments in the oil industry is at your disposal.

Write for Catalog Part 1700, which is devoted entirely to the application of TYCOS instruments in the oil industry.

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BETHLEHEM WAX PLANT EQUIPMENT

Filter Presses
Wax Distillate Chilling Machines
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Scale Wax Cooling Drums
Paraffine Wax Sweater Plants
Complete Wax Plants designed and built
Pumps, Stills, Towers, Condensers and other Oil Refinery Equipment
Oil Burning Systems
Complete Power Plant Equipment

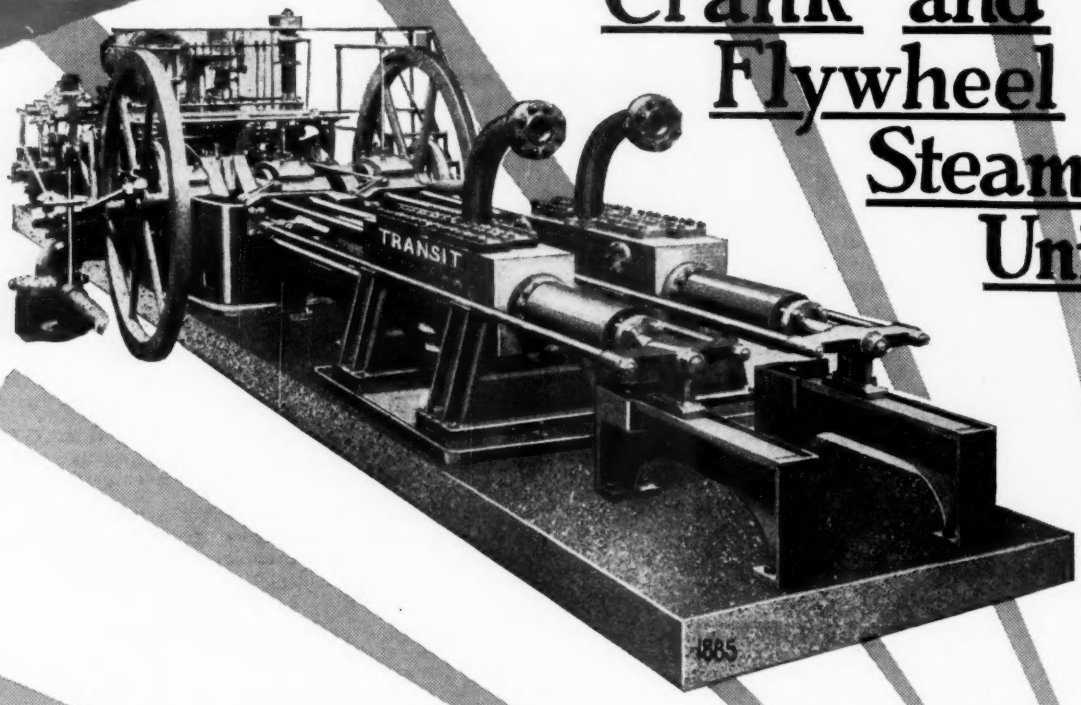
BETHLEHEM STEEL COMPANY, *General Offices, Bethlehem, Pa.*

District Offices

New York Boston Philadelphia Baltimore Washington Atlanta Pittsburgh Buffalo Cleveland Detroit Cincinnati Chicago St. Louis San Francisco Los Angeles Seattle Portland

An Outstanding H

Crank and Flywheel Steam Unit



ECONOMY—The crank and flywheel steam end is by far the most economical in the use of steam; and coupled with this you have the extraordinary reliability, flexibility and safety of steam power—three very important considerations in the handling of dangerously hot oil. Every refiner knows that this is so.

FLEXIBILITY—There is no industry where the manufacturing conditions are changing so rapidly as in oil refining. This requires the utmost flexibility in your pumping equipment.

If the refiner is to keep financially healthy he must be in position to meet these changing conditions. This means flexible equipment. No type of pumping equipment is so flexible as a steam pump. We have reference, of course to TRANSIT Steam Pumps.

UNIFORM FLOW—On this type of pump, the throws on the crankshaft are 90° apart. When one plunger is nearing the end of its stroke (and therefore traveling very slowly) the plunger on the opposite side is at the center of its stroke and traveling at its highest speed. Thus, both the speed and pressure of the oil in the common discharge line are kept very constant. Speed and pressure, thus controlled, in turn, exert a strong influence on maintaining an even temperature of the hot oil as it leaves the tubes.

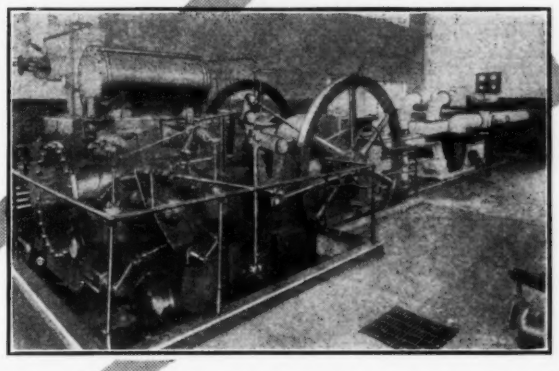
ot Oil Pump
By TRANSIT

CONTINENTAL OIL CO.
Ordered four–Right off the bat

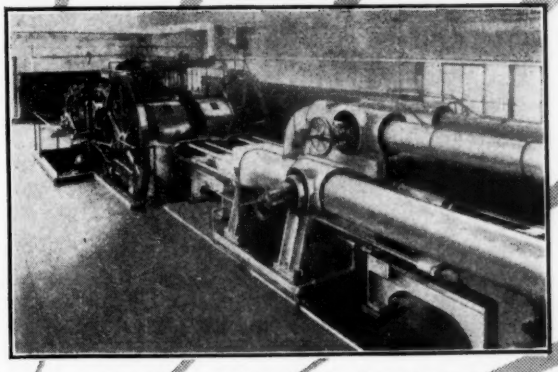
The progressiveness of the West is well exemplified by a recent installation by the Continental Oil Co., of four TRANSIT 15x35x3¾x24" Crank and Flywheel Hot Oil Pumps; one for Sapulpa and three for their Wichita Falls refinery.

At Sapulpa, The Continental needed more hot oil pump capacity in their refinery operations, but they were already short on steam—or boiler capacity.

We were consulted and recommended replacing their direct acting hot oil pumps with pumps of larger capacity, illustrated on the opposite page.



Sapulpa crank and flywheel TRANSIT Hot Oil Pump.



Another view of Sapulpa Pump.

Of course every refiner knows that the crank and flywheel steam end is very economical in the use of steam.

The Continental Oil Company are so well pleased with their installations of TRANSIT Crank and Flywheel Hot Oil Pumps that they have just ordered an additional unit, the fifth.

And we are proud of their installation, if you will permit us to say so, because we believe that they have chosen the outstanding type of hot oil pump developed up to this time.

Agents
REPUBLIC SUPPLY COMPANY of California, Los Angeles, California
E. L. BATON HARDWARE CO., Beaumont, Texas.

PUMPS **TRANSIT** ENGINES

NATIONAL TRANSIT PUMP & MACHINE CO. Oil City, Pa.

Agents
F. C. RICHMOND MACHINERY CO., Salt Lake City, Utah
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VAPOR PHASE REFINING

WILL

Increase your gasoline yields,
Improve your gasoline quality,
and
Reduce your refining costs.

THE GRAY PROCESSES CORPORATION
961-975 Frelinghuysen Avenue
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CLEAN UP THAT MESS

. . and make money

MANY a refinery faces a problem in getting rid of its cracking still residuum.

Messy, bulky, it is generally a burden.

Oliver United Filters are cleaning residuum in a number of refineries, changing it into a marketable oil.

Write for further particulars.

OLIVER UNITED FILTERS Inc.

SAN FRANCISCO, Fed. Reserve Bank Bldg. NEW YORK, 33 West 42nd St.
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The OILGRAM has its own staff of trained petroleum market reporters at each of the four major refining and marketing centers—Mid-Continent, Western Pennsylvania, Eastern, Chicago.

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Oil Products Co. He and L. E. Winkler, now a member of the Winkler-Koch Engineering Co. of Wichita, Kan., were two of the first engineers employed to install Dubbs cracking units.

Anxious to get into the selling end as well as the engineering, Mr. Petersen quit Dubbs in 1924 to go to the Graver Corp. as a sales and construction engineer for the Jenkins process. In 1926 he joined the engineering staff of the M. W. Kellogg Co., remaining with that organization until November, 1927 as sales engineer with headquarters in Tulsa.

After several years spent in selling cracking plants to refiners and painting rosy pictures for them of the possibilities of making money in the refining industry, Mr. Petersen says he was finally seized with a desire to try it out for himself.

West Texas was just bursting upon the horizon at that time as an enormous potential source of crude oil. He looked the ground over and decided that Big Spring was a coming center of refining activity. The Howard county field had been discovered but most of the production was shut in because the major companies mostly were developing their holdings further west.

The American Bristow interests of Ardmore, Okla., had large production in the field that was shut in.

Mr. Petersen scouted around, obtained financing and formed the Big Spring Refining Co. with himself as president. He made a contract for crude oil which specified that he must begin taking 2500 barrels of crude a day within 90 days from the date of the contract. That was in April, 1928.

If he was to take the crude he must build a refinery and a pipe line. He formed another company, the Big Spring Pipe Line Co. which laid a 4-inch welded line 15 miles long from the refinery into the field. Then he acquired a refinery site and began to build his plant.

HE WAS familiar with refinery construction practice and with all manner of pipe stills and bubble towers. So he designed his own pipe still and bubble tower, brought in equipment and set it up. He got his pipe line completed and enough tanks up to begin taking crude at the appointed time and presently he had the refinery ready to run.

He is now making three products, gasoline, gas oil and fuel oil. About 90 per cent of his gasoline is marketed in Texas and the balance is shipped into many districts, principally in Standard Oil Co. of Indiana territory. He gets a yield of about 25 to 26 per cent of gasoline on the crude. Most of the gas oil is shipped to manufactured gas plants in Standard Oil Co. of Indiana territory and

the fuel oil is sold almost altogether in territory close to the refinery.

Right now Mr. Petersen has some of the material on the ground to build a bigger and better pipe still. He has designed the new one as he did the old one. It is to have 150 four-inch tubes and is expected to run 5000 barrels a day of crude or more. He figures he can sell all the gasoline he can make.

When I was at the plant early in April, steel uprights and some of the roof girders of a boiler house were in place. Contrary to the usual practice, the boilers were installed first and now the house is being built around them. Eventually, unless the hydrogen sulfide is too bad, probably a house will be built to shelter the pumps and the other equipment that needs protection from the elements.

The essentials were built first at this plant because they had to be built to begin running crude and making money as soon as possible.

The plant is making money, has made some money from the start and Mr. Petersen says he is having a lot of fun.

New Equipment

Bennett Pumps Corp., Muskegon, Mich., announces as on the market a low-price, one-hand, portable flushing device for cleaning old grease from rear axles and transmissions, which is said to pull as much of a vacuum as more expensive electrically operated equipment.

The Bennett flusher attaches to any air line and alternately injects and sucks out cleansing oil until gear and housing are clean. It has no pump or gears. Patents have been applied for the valve employed in the unit.

* * *

The Halliburton Oil Well Cementing Co., Duncan, Okla., has started publication of a house organ to be known as "The Cementer." It will be sent to members of the Halliburton cementing organization in all fields. The May issue is the first.

In this issue the use of ice to chill water for cementing in the Santa Fe Springs deep sands is described. In the 7000-foot wells well temperatures have run up to 200 F. Other articles discuss water-cement ratios and interesting cement jobs.

Crown Central Moves Offices

CLEVELAND, May 18.—The Crown Central Petroleum Corp. has moved its New York offices to the Graybar building at 420 Lexington Ave. Offices formerly were at 198 Broadway.

Billions of Bubbles

NORWALK CO.'S GASOLINE PLANT, SANTA FE SPRINGS

SECOND LARGEST In The World

THE THREE units here shown, added to the Company's original, bring this Natural Gasoline Plant up, in point of production, to the World's Second Largest.

Work on Unit No. 1 (35,000 gallons) was begun October 1, 1928. Plant was put in operation November 17.

Work on Unit No. 2 (35,000 gallons) was begun November 26, 1928. Plant put in operation January 12, 1929.

Work on Unit No. 3 (35,000 gallons) was begun January 5, 1929. Plant put in operation February 12.

With that precision and exactitude characteristic of a Campbell plant itself, work on these three units was carried forward to speedy completion. That partly explains why Campbell construction is so much in demand.

J. A. CAMPBELL CO.
Natural Gas Engineers
CONSULTING DESIGNING CONSTRUCTING
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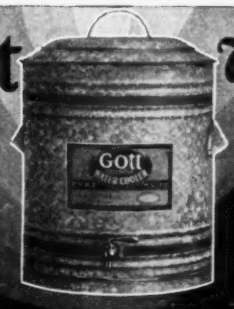
LONG BEACH, CAL.
MID-CONTINENT AGENCY STEARNS-ROGER MFG. CO. DENVER

Originators of Oil-Froth Absorbers

Gott Water Cans & Coolers



Built to last... you will always be assured of a fresh supply of pure water, when you have a GOTT Water Cooler. *Order one now from your supply store.*

Gotkool

GOTT Water Cans 1½ gal; 3 gal; 5 gal; and 10 gal.

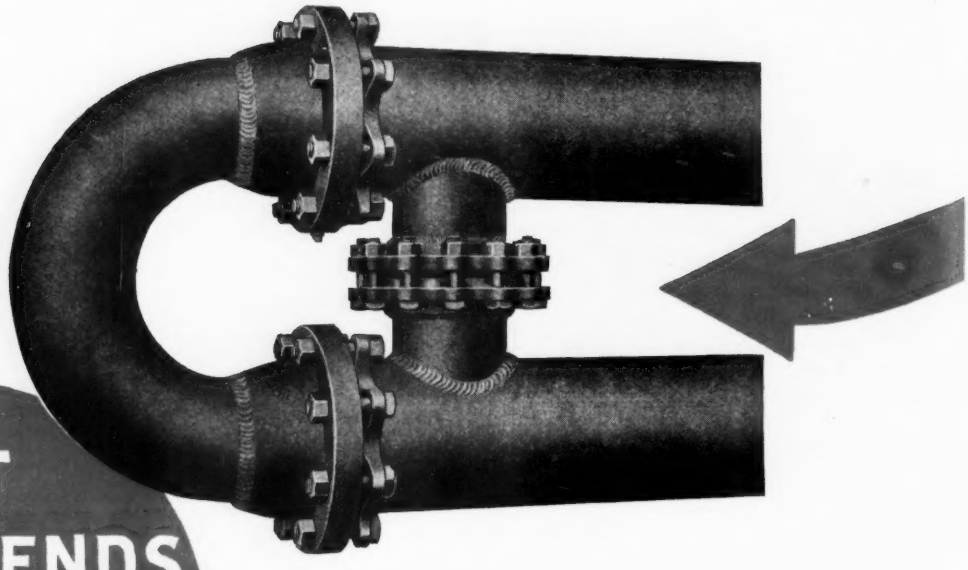
GOTT Water Coolers 3 gal; 5 gal; 8 gal; 10 gal; and 20 gal.

H. P. GOTT MFG. CO. · Winfield, Kansas

KEEP PURE DRINKING WATER ALWAYS HANDY

The Vogt Multitube

FOR HIGH PRESSURES



WROT STEEL BENDS AND FORGED STEEL FLANGES

Safe operation of heat exchangers at high pressures and temperatures is assured with the Vogt multitube type. Its construction can be applied to practically any operating pressure and temperature desired.

Forged steel flanges and tube sheets with wrot steel bends provide ample strength at points that are normally weak. For the outer shells and tube surfaces, special thicknesses of pipe or tubing are used as may be determined by the operating conditions.

Special consideration is given to the proper proportions of tube diameters to heat exchange without losing sight of the necessity for easy cleaning.

Manufacturers of: Drop Forged Steel Valves and Fittings, Oil Refinery Equipment, Water Tube and Horizontal Return Tubular Boilers, Ice and Refrigerating Machinery.

Chart Method of Predicting Viscosity Of Lubricating Oil Blends

By O. G. Wilson, Jr.*

AS a reliable method for predicting the viscosity of mixtures of lubricating oils from a knowledge of the viscosities and proportions of the components is one which would be most useful, providing it be sufficiently general to allow calculations involving widely differing viscosities of oils from various crudes and at the same time simple enough to use quickly and accurately, an extensive investigation of the subject was undertaken. Because the results secured appear to be quite gratifying, they are here described for the benefit of those who now have no better method of solving this type of problem other than by applying more or less accurate guesses based upon their experience.

Various formulas, charts, and mechanical calculators for determining the viscosity of lubricating oil mixtures have appeared in the past, but they are not considered entirely satisfactory.

Some have professed to solve the problem completely and directly by using a single formula; others have used one formula as a base, with correction factors supplied to provide for the variations which are known to be encountered when calculating blends of oils from different types of crudes.

As definite information regarding the nature and extent of these variations seemed to be that required first, four series of mixtures were carefully prepared and tested for viscosity, Saybolt Universal, at 100 and 210 degrees F. These mixtures included a series made up of a high viscosity paraffin oil with a low viscosity paraffin oil, one of high viscosity paraffin with low viscosity naphthene, one of high viscosity naphthene with low viscosity paraffin, and one of high viscosity naphthene with low viscosity naphthene oil, thus covering all possible combinations when subdivided in this manner. By naphthene oil is meant a well refined distilled oil from Texas Coastal crude; by paraffin oil, a well refined neutral or bright stock type oil from Mid-Continent crude.

The results of the viscosity tests at 100 degrees F. of these mixtures are given in Table 1. From this table can be seen the futility of attempting to develop one formula to cover all cases accurately.

The difference between the viscosities of mixtures which are identical in proportions of oils of almost identical viscosities, but differing in nature of components, amounts in some cases to almost fifteen per cent. Inasmuch as the results of the first and last series are in reasonable agreement, it appeared that three separate formulas only need be developed; i.e., one for oils of the same base, one for blends of paraffin oils with relatively lower viscosity naphthene oils, and one for paraffin oils with relatively higher viscosity naphthene oils.

In attempting to prepare empirical formulas by which calculations giving results which agree satisfactorily with those obtained by experiment, it soon became evident that Saybolt viscosities must be replaced by kinematic ones, especially as it was desired to include low viscosities. This is because the viscosity of the mixtures is some function of the absolute viscosities of the components rather than of the Saybolt viscosities.

In the case of higher viscosities, the Saybolt value bears, for all practical purposes, a simple straight line relationship to the absolute. But the relationship is more involved when low viscosities are considered and this made the subsequent calculations too cumbersome to handle.

Chart No.	Application	Formula
1	Blends of oils from the same base....	$\frac{100}{6.5\sqrt{V}} = \frac{P}{6.5\sqrt{v_1}} + \frac{(100-P)}{6.5\sqrt{v_2}}$
2	Blends of paraffin oils with naphthene oils of relatively lower viscosity	$\frac{100}{30\sqrt{V}} = \frac{P}{30\sqrt{v_1}} + \frac{(100-P)}{30\sqrt{v_2}}$
3	Blends of paraffin oils with naphthene oils of relatively higher viscosity	$\frac{100}{3.1\sqrt{V}} = \frac{P}{3.1\sqrt{v_1}} + \frac{(100-P)}{3.1\sqrt{v_2}}$

Of course it is realized that absolute and kinematic viscosities are not identical, but the simple relation of the kinematic to the absolute viscosity values makes the former sufficient for the purpose. Therefore the starting point of the many formulas investigated was the general one, $100.f(V) = P.f(v_1) + (100\text{-}P).f(v_2)$ where V, v_1 and v_2 are the kinematic viscosities at the same temperature of the blend, of the higher vis. component, and of the lower vis. component, respectively, and P is the percentage by volume of the higher vis. component.

Numerous types of formulas were tried out in endeavoring to find those which would fit the facts. Simple logarithmic and exponential ones were discarded in favor of power (or root) formulas as the latter type gave curves which agreed better with graphs of the laboratory results, providing the right root was used.

Powers (or roots) ranging from 0.01 to 100, positive and negative, were used in calculating by the tedious method of trial and error the viscosities of all the mixtures given in Table 1 as well as many other series of mixtures not recorded here. In each case, the variation of the calculated value from the laboratory result was listed as percentage of the actually determined viscosity.

The root was chosen for each series which gave the smallest average percentage error over the entire range of 0 to 100 per cent of both components and the average of these used as the root in the final formula for each of the three general types of mixtures. The formulas finally selected, together with the designation of the charts, which will be described below, are:

These formulas fulfill the requirement of accuracy, but not that of ease of handling, so they have been charted nomographically so that most viscosity problems involving refined mineral oils may be solved by inspection, provided the Saybolt viscosities of the components are between 40 and 4000 and all viscosities are taken at the same temperature.

The charts have been calculated

*Chief Chemist, Gulf Refining Co., Port Arthur, Texas.

Chart No. 1

To be used in predicting the viscosity of blends of oils of the same base

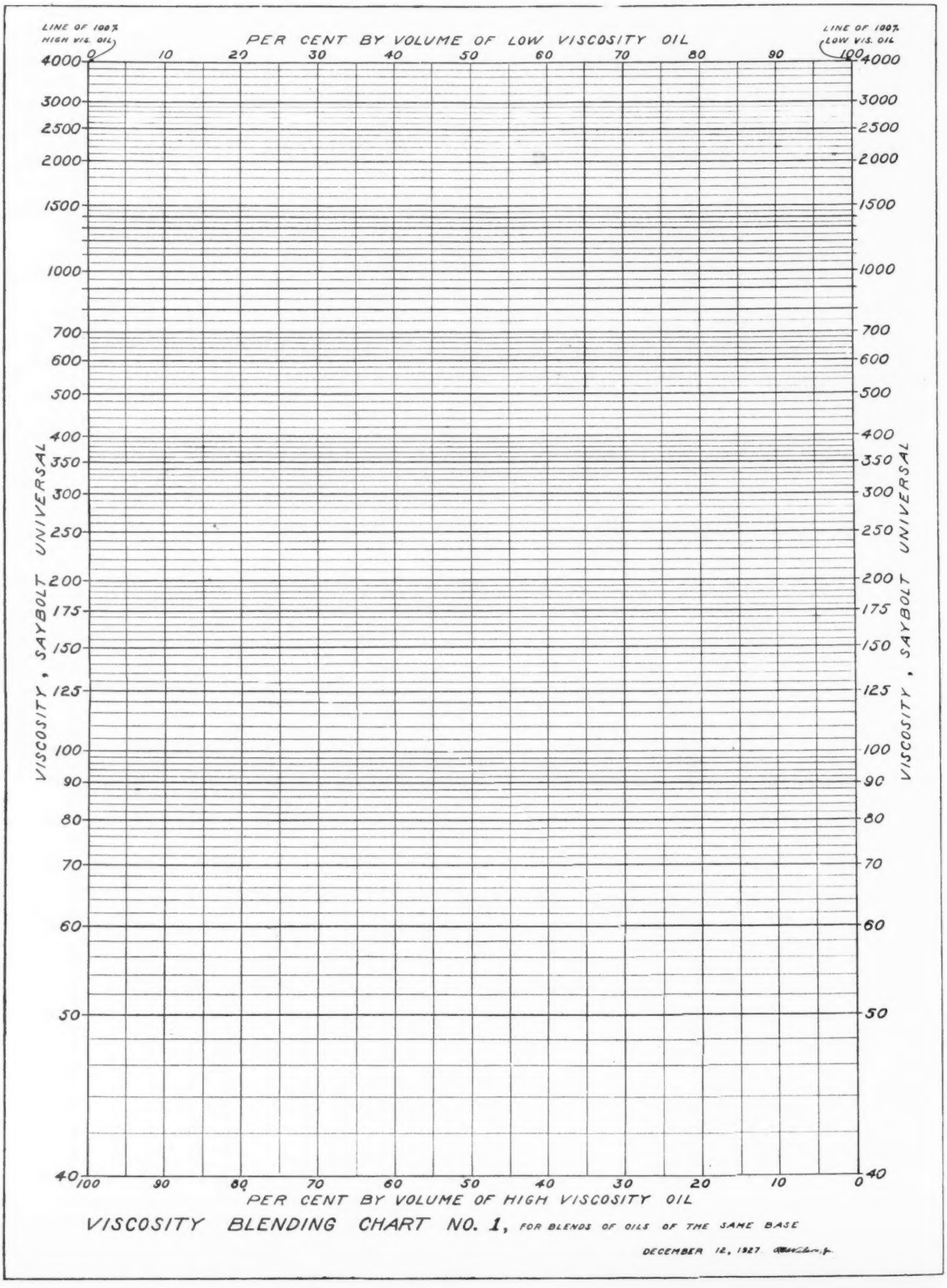
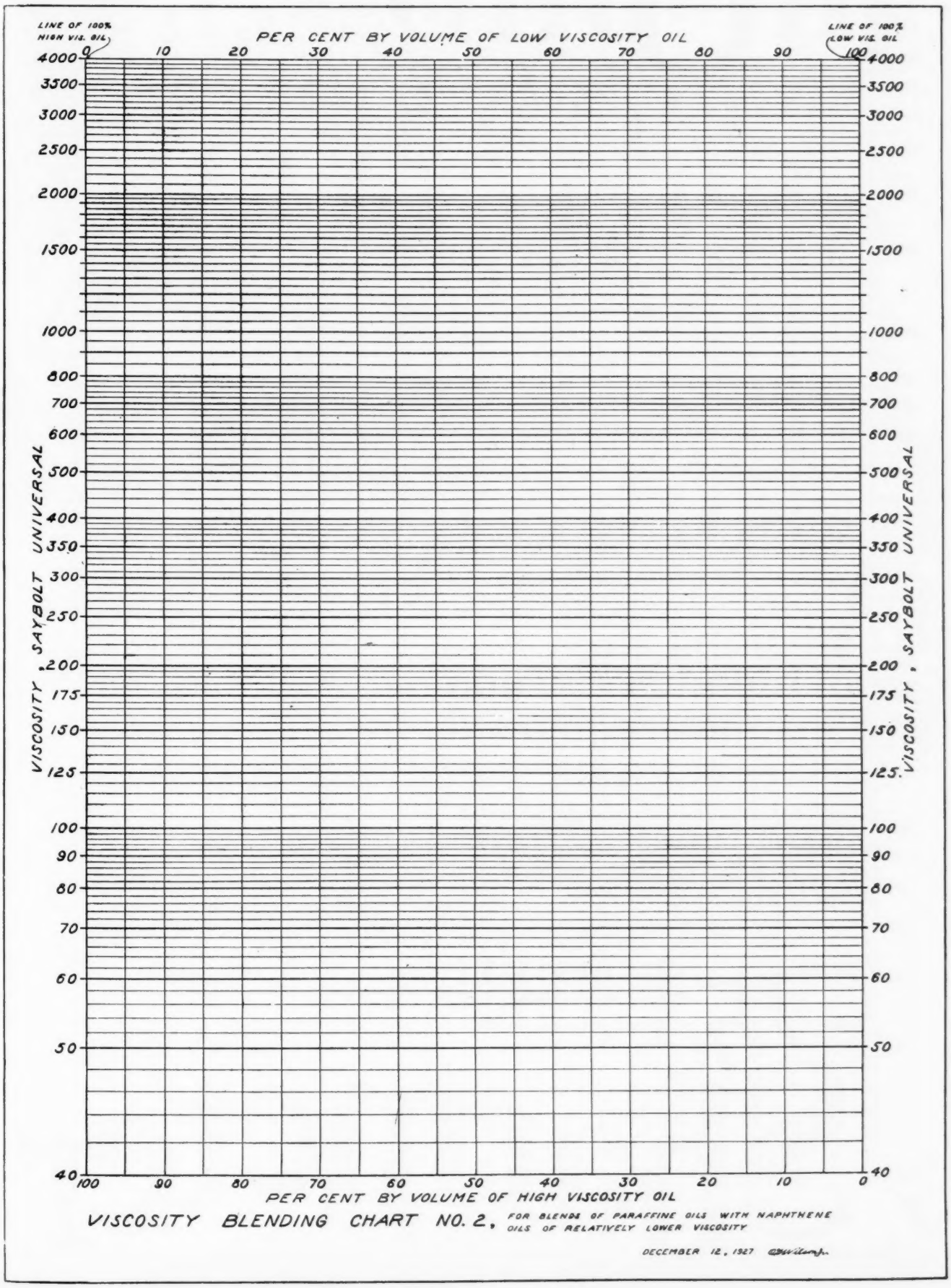

LINE OF 100% HIGH VIS. OIL
PER CENT BY VOLUME OF LOW VISCOSITY OIL
LINE OF 100% LOW VIS. OIL
0 10 20 30 40 50 60 70 80 90 100
4000 3000 2500 2000 1500 1000 700 600 500 400 350 300 250 200 175 150 125 100 90 80 70 60 50 40
VISCOSITY, SAYBOLT UNIVERSAL
100 90 80 70 60 50 40 30 20 10 0
PER CENT BY VOLUME OF HIGH VISCOSITY OIL
VISCOSITY BLENDING CHART NO. 1, FOR BLENDS OF OILS OF THE SAME BASE
DECEMBER 12, 1927

Chart No. 2

To be used in predicting the viscosity of blends of paraffin oils with naphthene oils of relatively lower viscosity


LINE OF 100% HIGH VIS. OIL
PER CENT BY VOLUME OF LOW VISCOSITY OIL
LINE OF 100% LOW VIS. OIL
0 10 20 30 40 50 60 70 80 90 100
4000 3500 3000 2500 2000 1500 1000 800 700 600 500 400 350 300 250 200 175 150 125 100 90 80 70 60 50 40
VISCOSITY . SAYBOLT UNIVERSAL
100 90 80 70 60 50 40 30 20 10 0
PER CENT BY VOLUME OF HIGH VISCOSITY OIL
VISCOSITY BLENDING CHART NO. 2. FOR BLENDS OF PARAFFINE OILS WITH NAPHTHENE OILS OF RELATIVELY LOWER VISCOSITY
DECEMBER 12, 1927

In Ohio

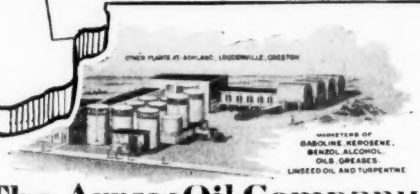
All along the main highways *of* Ohio are Sharmeter equipped stations.

It is the character of your dispensing equipment—the suggestion of accurate and speedy service—that attracts profitable trade.

SEND FOR BULLETIN M-3

SHARPSVILLE BOILER WORKS CO.

SHARPSVILLE - - PA.



The Arrow Oil Company

WOOSTER, OHIO

Nov. 16, 1927.

Sharpsville Boiler Works Co.,
Sharpsville, Pa.

Gentlemen:-

We forwarded to you today a picture of our Service Station which is equipped with nine Sharpsville Meters.

We receive many compliments from the public on the neat appearance of this equipment and on the improved service which the meter equipment enables us to render to the public.

We wish to compliment you on the service you have rendered us and we assure you that it is a pleasure to continue business relations with your good firm.

Yours very truly,

THE ARROW OIL COMPANY

R. K. Sheasley
President

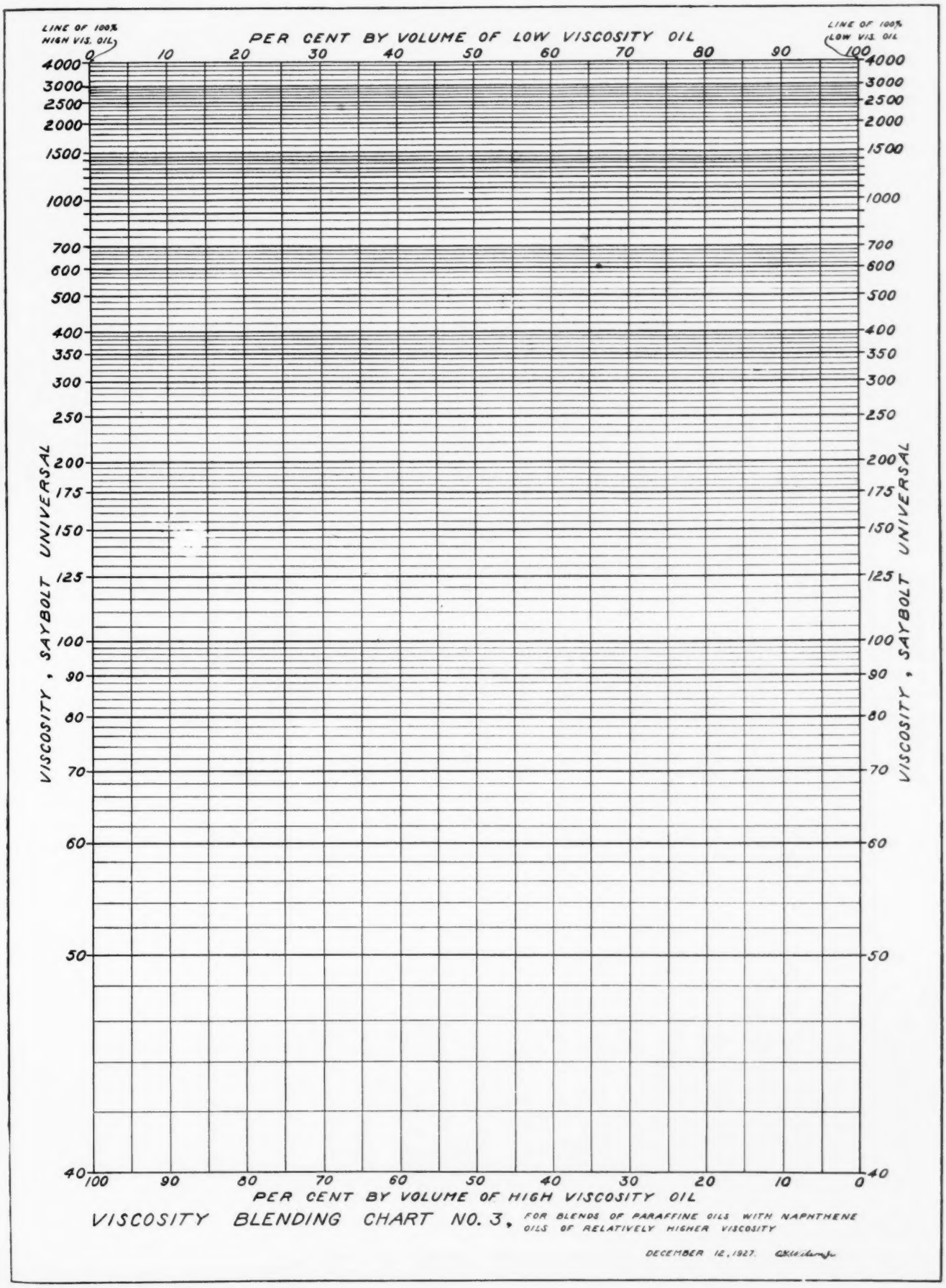
RKS:R

The Sharmeter

REG. U.S. PAT. OFF.

Chart No. 3

To be used in predicting the viscosity of blends of paraffin oils with naphthene oils of relatively higher viscosity


LINE OF 100% HIGH VIS. OIL
PER CENT BY VOLUME OF LOW VISCOSITY OIL
LINE OF 100% LOW VIS. OIL
0 10 20 30 40 50 60 70 80 90 100
4000 3000 2500 2000 1500 1000 700 600 500 400 350 300 250 200 175 150 125 100 90 80 70 60 50 40
VISCOSITY, SAYBOLT UNIVERSAL
100 90 80 70 60 50 40 30 20 10 0
PER CENT BY VOLUME OF HIGH VISCOSITY OIL
VISCOSITY BLENDING CHART NO. 3, FOR BLENDS OF PARAFFINE OILS WITH NAPHTHENE OILS OF RELATIVELY HIGHER VISCOSITY
DECEMBER 12, 1927.

back to Saybolt values and are marked in those terms for convenience in using. It is not considered necessary to describe in detail the method of preparing the charts, as only simple nomographic methods have been used.

As an example of the method of using the charts, consider a blend of 60 per cent by vol. of 1002 vis. paraffin oil and 40 per cent of 149 vis. naphthene oil. Obviously chart No. 2 is the one to employ. Connect with a straight edge the 1002-vis. point on the left vertical line (line of 100 per cent high vis. oil) with the 149-vis. point on the right vertical line (line of 100 per cent low vis. oil) and read from the viscosity scale at either side of the chart the desired viscosity at the intersection of the straight edge with the vertical line of 60 per cent high vis. (40 per cent low vis.) oil blend obtaining 460 as the result.

After completion, the charts were checked against 178 values picked at random from the files of the Gulf Refining Company. The average difference between the estimations provided by the charts and the recorded laboratory results was 1.2 per cent. This is excellent agreement, considering that the A.S.T.M. standard method for determining Saybolt viscosities regards 1.0 per cent as the allowable difference between the results of two tests on the same sample of oil.

Of the 178 comparisons, only 26 showed differences of over 2.0 per cent and only 3 over 4 per cent. The mixtures checked in this manner represent those of all three general types; of mixtures of distilled oils and/or residual bright stocks; of mixtures of oils having components of nearly the same or of widely differing viscosities; of components largely from high grade Texas Coastal and Mid-Continental crudes with a few from Pennsylvania crudes.

The temperatures of the viscosities checked ranged from 70 to 210 degrees F. In fact, if there had not been included a representative number of comparisons of viscosities at 210 degrees F. of around 50, where a difference of one second in the recorded result makes a difference of 2.0 per cent in the comparison, the average variation would have been considerably lower than 1.2 per cent. In Table 2 is given the results secured by using the charts on the mixtures of which the determined viscosities are reported in Table 1. Here the average difference between determined and calculated values is 0.8 per cent.

Neither the charts nor the formulas have been considered in connection with unrefined oils such as black oils nor with mixtures containing animal or vegetable oils. Oils from California crudes have not been investigated and only a few from Pennsylvania crudes, but the charts probably can be applied to these types with reasonable success. Any information regarding the accuracy of the charts in connection with oils from these two crudes would be interesting to the author.

Table 1

Mixture of	1000 Vis. Paraffin Oil with 150 Vis. Paraffin Oil	1000 Vis. Paraffin Oil with 150 Vis. Naphthene Oil	1000 Vis. Naphthene Oil with 150 Vis. Paraffin Oil	1000 Vis. Naphthene Oil with 150 Vis. Naphthene Oil
	Saybolt Universal Viscosity at 100° F. Found by Test			
0% by Vol. higher Vis. oil	150	149	150	149
10	175	177	171	175
20	208	217	199	210
30	249	260	231	247
40	299	313	275	303
50	361	375	330	352
60	440	455	402	440
70	533	549	497	528
80	657	678	621	652
90	812	825	788	815
100	1002	1002	1008	1008

Table 2

Mixture of	1000 Vis. Paraffin Oil with 150 Vis. Paraffin Oil	1000 Vis. Paraffin Oil with 150 Vis. Naphthene Oil	1000 Vis. Naphthene Oil with 150 Vis. Paraffin Oil	1000 Vis. Naphthene Oil with 150 Vis. Naphthene Oil
	Saybolt Universal Viscosity at 100° F. From Charts			
Chart Employed: No.	1	2	3	1
0% by Vol. higher Vis. oil	150	149	150	149
10	177	179	172	175
20	209	214	199	208
30	248	259	234	247
40	296	313	277	296
50	356	380	332	356
60	433	460	402	435
70	528	558	495	528
80	649	679	617	651
90	803	825	785	805
100	1002	1002	1008	1008

New Patents

Prepared by R. E. Burnham, patent and trademark attorney, Continental Trust Building, Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

May 7, 1929

REFINING

Process for the continuous distillation of hydrocarbons with simultaneous cracking of high-boiling into low-boiling hydrocarbons—Hermann Wolf, Bad Homburg vor der Hohe, Germany, assignor to Carburol Aktiengesellschaft, Schaffhausen, Switzerland. Filed Sept. 24, 1925. No. 1,711,869.

Pressure distillation of heavy hydrocarbon oils—Robert E. Wilson, Chicago, Ill., assignor to Standard Oil Co. (Indiana). Filed June 29, 1925. No. 1,712,187.

PRODUCTION

Deep-well pump—Ralph R. Bostic, Los Angeles, Cal. Filed April 14, 1926. No. 1,711,582.

Deep-well pump—Starley White, Stuttgart, Ark. Filed Sept. 17, 1928. No. 1,711,764.

Method of sampling earth formations—Ernest Koppl, Long Beach, Cal. Filed Oct. 3, 1927. No. 1,711,797.

Pump-jack—John T. Phipps, Huntington Park, Cal. Filed Dec. 21, 1926. No. 1,711,806.

Method and apparatus for protecting wells—Erd C. Crowell, Los Angeles, Cal., and Alvin B. Crowell, Dallas, Tex.; said Erd V. Crowell assignor to said Alvin B. Crowell. Filed May 31, 1927. No. 1,712,029.

Well-pumping apparatus—James R. Robb, Oilton, Okla. Filed Aug. 5, 1927. No. 1,712,049.

Apparatus for heating oil—John A. Yerkes Long Beach, Cal. Filed Feb. 16, 1926. No. 1,712,101.

Tubing-drainer—Mervin O. Rife and William P. Capps, Shreveport, La. Filed Sept. 14, 1928. No. 1,712,400.

MISCELLANEOUS

Process of making filtration and decolorizing adsorbents—Harold T. Maitland, Sharon Hill, Pa., assignor to Sun Oil Co., Philadelphia. Filed Feb. 6, 1924. No. 1,711,504.

Manufacture of carbureting liquids similar to petrol—Eugene A. Prudhomme, Neuilly-sur-Seine, France. Filed Jan. 20, 1925. No. 1,711,855.

Process for the manufacture of synthetic liquid fuels—Eugene A. Prudhomme, Neuilly-sur-Seine, France. Filed April 7, 1926. No. 1,711,856.

Apparatus for producing synthetic hydrocarbons and alcohols—Hyleman A. Webster, Columbia, Tenn. Filed Oct. 1, 1926. No. 1,711,913.

Oil storage tank—Ivan R. Afonin, London, England. Filed July 25, 1927. No. 1,712,321.

Purifying alcohols (derived from unsaturated hydrocarbons)—Hyym C. Buc, Roselle, N. J., assignor to Standard Oil Development Co.

Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

THE largest amount of refinery construction was under way in the United States on Jan. 1, 1929, that the industry has seen since 1920. This is set forth in a report just put out by the Bureau of Mines on expansion in refining capacity during 1928. Not all of the construction is finished yet.

On Jan. 1, this year, 14 refineries were building, with an aggregate capacity of 99,000 barrels a day of crude. On that same date there were 413 completed refineries in the country with a total crude capacity of 3,509,540 barrels a day. Of these refineries, 341 with a capacity of 3,325,890 barrels were operating and 72 with a capacity of 183,650 barrels were shut down.

At the same date, 245 of the refineries were skimming plants and 90 are listed as "complete" plants. Of the existing or building refineries, 185 had cracking equipment on Jan. 1, 1929 as against 170 on the same date a year earlier. Total cracking capacity of the country on Jan. 1 this year was 1,476,874 barrels a day as compared with 1,288,000 on Jan. 1, 1928.

* * *

COMMENTING on the article concerning his process that was published in NATIONAL PETROLEUM NEWS, page 69, May 1 issue, Luis de Florez writes:

"It may interest you to know that since your article was written the plant yields have risen from 30 per cent to 35 per cent of better than 400 end point gasoline. At the same time we are producing 280 viscosity bottoms. I am in hopes that we may increase gasoline yield to 40 per cent in the course of the next few weeks. The yield statements in your article apparently are becoming more conservative every day."

The article mentioned described the de Florez vapor phase cracking process which is now operating on Venezuela crude at the plant of the Gulf Refining Co., Bayonne, N. J.

* * *

C. L. MARNER, western manager of the Graver Corp., who makes his headquarters in Tulsa, writes in to correct the listing of the Richardson Refining Co. of Big Spring, Tex., as it was carried in a table of West Texas refineries on page 40-d of NATIONAL PETROLEUM NEWS, May 1 issue. This table listed the Richardson plant as having one Jenkins cracking unit. It has two such units, Mr. Marner states.

* * *

SOME time within the present year, probably, a decision will be handed down in the case of The Texas Co. against the Warner-Quinlan Co. which is a straight out battle, apparently between the Adams and other Texas Co. patents and those of the Dubbs interests.

The trial began in January, 1928, and occupied about 20 weeks in court sessions, being heard by the batch system and not continuously. A number of expert witnesses were called by each side. Robert E. Wilson was a leading witness for The Texas Co. as Dr. Gustav Egloff was for the Dubbs interests.

Mr. Wilson was on the stand for about 6 weeks and answered 8200 questions. Dr. Egloff was on about as long but nobody seems to have enumerated the questions asked him.

One of the lawyers in the case probably figured he had achieved a great triumph when he succeeded by adroit questioning in making a well known chemical engineer (it was neither Wilson nor Egloff) assert that the liquid level in a certain tank was lower than the bottom of the tank.

The trial was held before Judge Runyon in the United States district court in Newark, N. J. The hearing ended March 28.

* * *

ANOTHER suit in connection with cracking is now in court in Portland, Me., although this is not really a patent suit. The litigation was brought by the Gasoline Products Co., owners of the Cross cracking process, against the Champlin Refining Co., Enid, Okla.

Mr. Champlin states that his company bought a Cross plant in 1926, agreeing to pay the regular royalty. The Gasoline Products Co. at that time promised to furnish royalty free a new vapor phase treating process for the cracked gasoline, says Mr. Champlin. This, he further states, the company failed to do.

Royalties of about $200,000 remain unpaid because the vapor phase treating process was not forthcoming, according to Mr. Champlin and the Gasoline Products Co. is now suing to recover these royalties.

* * *

F. W. BURFORD, president of the Burford Oil Co. whose refinery in West Texas was described on page 75 of the May 15 issue of NATIONAL PETROLEUM NEWS, states that the capacity of the Pecos plant is 7000 barrels a day, for crude distillation and 4000 barrels a day cracking capacity.

* * *

IT IS understood that the Gulf Refining Co., The Texas Co., Sinclair Refining Co. and Tide Water Oil Co. are some of the companies that are installing or planning to install de Florez stills of the circular type with vertical tubes which was described in this paper several weeks ago. The rights to the still are owned by The Texas Co. and the M. W. Kellogg Co. and E. B. Badgers Sons Co. have arranged to build them. This still is used in the vapor phase cracking process developed by Luis de Florez at Bayonne for the Gulf Refining Co. and the Texas Co. It is also in use on some Holmes-Manley stills.

* * *

HAROLD C. DAVIDSON, for a long time in the employ of the Standard Oil Co. of New Jersey and lately at the Baton Rouge plant of the Standard of Louisiana has received a promotion. He has been appointed superintendent of the Standard of New Jersey's refinery in Sumatra and sailed recently to take over the job.

Just as Birds of a Feather
Flock together

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Big Companies Dominate Oil Distribution in Florida

By Ward K. Halbert
N. P. N. STAFF WRITER

TAMPA, Fla.

WHAT would the oil industry be without the Independent jobber? Anybody who wants to know can get a good idea by visiting Florida. The state is not utterly void of jobbers but they are so scarce they are hard to find, and finding them is the more difficult because most of them do not have a brand of gasoline peculiar to themselves.

When the south-bound tourist passes Orlando, the filling station signs he sees advertise the products of Standard, Sinclair, Texas, Gulf, Pan-American, Pure and Sun. Occasionally he may see a tank truck exhibiting the name of some local oil company, but the owner of such trucks has a choice of two ways to obtain gasoline:

Either he can send his trucks to the bulk plant of some major competitor and get gasoline at 2½ cents below what the dealers pay or (if he has bulk storage of his own) he can buy in car lots from a major competitor at 3 cents below what the dealer pays. Some Independents do one way and some another, according to whether they think the bulk plant operation is profitable at ½-cent a gallon.

Investigation shows that some of these Florida Independents perform this "peddling" function on rather a large scale. A few of them have their own brands and work up quite a demand for their merchandise. The natural question is, "Why do these marketers not buy a distinctive product from some Independent refiner?" And the answer is "Freight." By the time they have paid their transportation charges by rail, there is no profit left.

Of course the freight figures differ in every town but Tampa is a fair example. It is half way down the peninsula on the side nearest Texas and Louisiana, and rail freight from convenient refinery points into Tampa is 7.6 cents a gallon. Even if the jobber could expect a consistent 6½-cent price at the refinery, that would bring the delivered price above 14 cents.

Florida has a 5-cent tax, so every gallon in storage represents an investment of 19 cents in real money. Cut-price filling stations around Tampa at present are selling gasoline to consumers at 20 cents. So it is obvious that the Independent jobber buying in tank car lots would be strictly out of luck.

The official retail price is 24 cents in Tampa and the big companies are getting that for their branded gasolines. The posted tank wagon price is 22 cents but there is an official 2-cent discount to re-sellers, all over Standard Oil Co. of Kentucky's territory, making the actual cost to a dealer 20 cents. The fact that some of them are selling for 20 cents indicates strongly that some of the big companies are cutting the tank wagon price or rebating. The absence of Independent jobbers does not stop that.

BIG companies, of course, do not bring gasoline into Florida by rail. They deliver it to convenient ocean terminals by tanker. Having enough distribution in Florida to justify such large shipments, they can put gasoline there as cheaply as anywhere else. Freight probably does not exceed a cent a gallon. But the Independent operator, doing business in one or two towns, cannot operate in that way.

Several interests in Tampa have figured on it. The cheapest kind of a terminal costs $10,000. A good steel barge in four compartments represents an investment close to $10,000 also. A tug of sufficient horsepower

How the big companies handle gasoline in Florida. Above is loading rack where 24 tank cars can be filled at one time from storage at the Shell Petroleum Corp.'s deep water terminal near Jacksonville. This is one of five such terminals near Jacksonville. The picture to the right shows unloading lines being laid from the pump house out into the St. John's river at the Shell's Jacksonville terminal

and tonnage to trust 700 miles in the open Gulf of Mexico with an expensive cargo costs $30,000. Even if a small Independent had all these things given him by a rich uncle, he would still have a hard time using them.

If his barge was small and carried only 400,000 gallons, and if only half the cargo was gasoline, he would have to buy 200,000 gallons at once. Then as soon as the craft docked in Tampa he would owe the state $10,000 in tax alone. A great many of Florida's Independents do not sell 200,000 gallons of gasoline a year, and a year's supply in storage is a big speculation for any oil man. An unexpected fluctuation in the market might easily wipe him out.

WHAT a good sized investment might earn with adequate terminals in Florida and seaworthy tank ships to ply between there and Houston, New Orleans and Port Arthur, is a recurring topic of conversation among jobbers in the isolated peninsula. Naturally the conversation gives rise to rumors. Just now two are being bandied about freely:

The first is that an eastern capitalist has bought two tank ships to ply between California and Miami; that he will build a terminal in Miami and operate tugs and barges along the Atlantic and Gulf coasts supplying small marketers with their requirements down to 100,000 gallons through subsidiary terminals here and there.

The second rumor specifically mentions the names of Henry Ford and Harvey Firestone, as having gone in with some refiner to finance a similar project. It is alleged, however, that the Ford-Firestone terminal will be at Tampa, from which point gasoline will be shipped up and down the peninsula by rail to super service stations with tank car storage and trackage facilities, and that the Tampa terminal will be supplied by tug and barge from Texas and Louisiana.

The fact that "big money" is necessary to handle such a project may account for the implication of names like Ford and Firestone. But color is given to the second rumor by the fact that the W. B. Nicholson Tire & Rubber Co., Firestone's Tampa distributor, has recently completed a service station of ten departments at the corner of East La Fayette and East streets, and the station has trackage and tank car storage. It is only one of several in the state.

The departments will be gasoline and oil sales; tires and tire repairs; battery sales and service; brake testing and relining; wheel alignment; rim sales and service; complete lubrication; automobile laundry; electrical department and an accessory store. The local management denies most of the story about the terminal but the

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Forty years successful experience; plant fully equipped for fabricating plate up to 1⅛" thick.
Pressure Stills for Cracking Process - Fractionating Towers - Dephlegmating Towers, Bubble Towers - Heat Exchangers - Agitators - Steam Stills - Crude Stills - Condenser Boxes, Run Down Tanks - Blending Tanks - Hemispherical Tanks - Blow Cases - Acid Tanks, Compounding Kettles - Storage Tanks to 80,000 Barrels - Smoke Stacks and Breechings, etc.

THE BIGGS BOILER WORKS COMPANY, Buchtel and Bank Streets, AKRON, OHIO
Eastern Sales Office: 50 Church St., New York *Western Sales Office:* 35 South Dearborn St., Chicago

Quality and Service

Fourteen years of operation in every important section of the Mid-Continent, a continuous program of research work and the constant introduction of every important improvement in the manufacture of

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has enabled us to develop a product that is

THE ESSENCE OF PERFECT MOTOR FUELS

Producing easy starting, rapid acceleration and anti-knock performance. These qualities with many others, precisely controlled, distinguish EMPIRE NATURAL GASOLENE as a superior product for the manufacture of premium motor fuels.

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THE EMPIRE OIL & REFINING CO.

Every Grade Conforms to N. G. A. A. Specifications.

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MANUFACTURERS AND MARKETERS OF QUALITY NATURAL GASOLENE

Eighteen Plants in Mid-Continent Assure Prompt Delivery.

Sales and General Offices at Bartlesville, Oklahoma

A one-stop station built for and operated by the Joseph H. Walsh Co., tire dealers principally, in Jacksonville. The building is steel frame construction with polychrome stone trimming against a stucco background. Carlos B. Schoeppl, Jacksonville, was the architect

denial has not been positive enough to stop the rumor.

The two terminal stories, with a scare for the small independent in one and a hope in the other, are some distance in the future, even if true, and in the meantime the Florida Independent marketer must earn the most he gets on lubricating oils. Nearly every one of them is a territorial distributor for one or more nationally marketed oils. In fact there are several times as many lube oil distributors in Tampa as oil jobbers. Most of the distributors are in some other business.

WITH Florida's fine road system and wonderful array of expensive automobiles, at least part of the year, all the compounders of nationally advertised motor oils want general distribution in the state. If they can't have an oil man for distributor they take what they can get. Usually it is a hardware merchant. Here is a partial list of Tampa's distributors:

Owen Nicholas, a wholesale accessory man handles Quaker State. Wholesale Auto Supply Co., distributes Veedol. The distributor of Lovejoy shock absorbers handles Pennzoil in a wholesale way. E. E. Freeman Co., a wholesale feed store, distributes Hy-Vis. Tampa Hardware Co., is distributor for Oilzum. C. W. Green Co., another hardware concern, distributes Caspar. G. Norman Baughman Co., a wholesale accessory house, handles Autoline. Knight & Wall, specializing in sporting goods, distributes Wolf's Head.

Besides the foregoing, the Central Oil Co., marketers of fuel oils but no gasoline, distribute Marathon oil, and the two Independent operators in town who do market gasoline each have three motor oils to distribute—a Pennsylvania, a Mid-Continent, and a pale. One or two hardware companies in the field would not make a lot of difference to a company specializing in oil, but the multiplicity of them builds up a formidable competitor.

The accessory houses have traveling salesmen calling on the garage and service station trade for 150 miles around. So do the hardware houses, because most of them carry an accessory line of some sort. The same salesmen sell the oil for them, somewhat as a side line, but they sell a great deal of it nevertheless. They have to deliver it by train or freight truck, and that is the oil man's only advantage. He can give better service to dealers.

In Tampa, the Columbia Oil Co., which buys gasoline from Standard Oil Co. in tank car lots, distributes three kinds of motor oil in all grades to the dealer trade in a tank truck that is kept busy most of the time. The truck driver is not simply a driver but a young man with sales ability. The company is headed by D. L. Elvery.

The Sunshine State Oil Co., headed by Bert Maddox, buys gasoline in tank truck quantities from Pure Oil Co., but keeps one tank truck busy all the time and two part of the time, distributing motor oils in Tampa and surrounding towns for 100 miles or so. Sunshine State also distributes a Pennsylvania oil, a Mid-Continent oil and a south Texas pale oil.

Saunders Independent Oil Co. of Orlando, composed of C. E. Saunders and his two sons, H. R. and C. O. Saunders, handle no gasoline at all. The company has built up a thriving business on motor oils, distributing them by stake truck in milk cans over a radius of 40 miles in the fruit belt. There are several other such marketers in the state who either spurn the gasoline business or use it chiefly as a means of holding dealer customers for their motor oil trade. Details of how one of these marketers operates will be told in a subsequent issue of NATIONAL PETROLEUM NEWS.

In spite of all their handicaps, the Independent operators in Florida who have survived to the present, have hopes for the future, because business generally is increasing rather than decreasing now. The depressing reaction from the boom days has not been overcome entirely but oil men think the worst of the "reconstruction period" is over.

There are thousands of vacant and dismantled filling stations in Florida. Some of them are excellent buildings and well situated. Their existence was due wholely to the real estate boom and they died with it. Once upon a time the state's gallonage might have partially justified all of them but it never justified the high rental rates paid by some of the private station operators.

SIX or seven years ago, venturesome individuals built luxurious service stations on city lots and contracted to pay rent up to $1000 a month for the locations over a 10-year period. After a year or two the business done by stations did not justify a rental of $100 a month. The poorly financed operators naturally "jumped" their preposterous leases and left the stations idle.

Solvent companies could not do that of course. And a great many big companies entered into filling station lease agreements during the boom that are all out of proportion to pres-

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Attract your share of business from the ever-increasing number of motorists who crowd the highways in spring and summer. Tell them your story with Cincinnati Globes—the globes whose superiority in advertising value and service is an admitted fact. Order now. Delivery at once, or later if desired.

Clean, careful workmanship and special processes whereby trade designs are fired into, and actually become part of the glass, give Cincinnati Globes their superior advertising value.

Write us about your globe requirements and learn how economical it is to produce your trade design in everlasting Cincinnati Globes.

When you choose Cincinnati Globes—you choose the globes preferred by leading oil marketers for their durability, brilliance, trade-pulling efficiency, and economical cost—first and last.

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If desired our Art Department will create a new design for you.

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Large or small orders receive the same careful attention and prompt shipment.

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SELL MORE GASOLINE AND OILS

Skilled Supervision

Guarantees the Quality of Gulf Products

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

Gulf Refining Company

General Sales Offices
PITTSBURGH, PA.

District Sales Offices
New York, Boston, Philadelphia, Louisville, Atlanta, Houston, New Orleans

How Many Aeroplanes?

National Petroleum News is compiling a census of aeroplanes owned by its readers.

If you or your company own one or more planes, will *you* drop us a line telling us the make, the type and how planes are used in *your* business?

Pictures will also be welcome.

NATIONAL PETROLEUM NEWS
1213 West Third Street **Cleveland, Ohio**

ent values. Unlike the individuals, they cannot void their leases for they are able to meet their legal obligations. Some of these 10-year contracts are not half expired and the major operators are looking forward to five more years of "paying through the nose" for the hysteria of the boom days.

Wayside stations that thrived on the all-year business of 1923 cannot now sustain themselves as hot-dog stands during the tourist season. They look as if the glare of another tropical summer would warp their walls apart, not having been painted in five years. Even the best of stations now have to save during the winter peak to tide over the summer depression. Like the summer resort stations of northern Wisconsin—they have "turkey one day and feathers the next."

Oil Trademarks For Copyright

The following are trademark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Barrister Building, Washington, D. C. trade-mark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

"Purelube" No. 279,237. The Pure Oil Co., Chicago. For hydrocarbon motor fuel oils and lubricating oils and greases.

"M-W" No. 279,492. Midwest Oil Co., Minneapolis. For gear grease.

"Sea Gull" No. 279,988. The C. H. Clark Oil Co., Cleveland. For lubricating oils.

"Woco" No. 270,104. Wofford Oil Co., Birmingham. For hydrocarbon motor fuel oils, lubricating oils, lubricating greases, and gasoline.

"I G-Benzin" No. 279,149. I. G. Farbenindutrie Aktiengesellschaft, Frankfort on the Main, Germany. For synthetic benzine.

"Leuna-Benzin" No. 279,150. I. G. Farbenindustrie Aktiengesellschaft, Frankfort on the Main, Germany. For synthetic benzine.

"SYN-Benzin" No. 279,151. I. G. Farbenindustrie Aktiengesellschaft, Frankfort on the Main, Germany. For synthetic benzine.

NEW YORK, May 17.—Oxweld Acetylene Co., 30 East 42nd St., here, has off the press a booklet entitled "High Test Welding Rod" in which it describes an improved welding rod for making stronger welds in steel.

ON THE LAZY BENCH

National Petroleum News

Should Be

"Do you think that Ruby is fitted for the battle of life?"

"Well, she ought to be; she's been in four engagements already."

—Mid-Continent Petroleum Courier

* * *

"George," said Mr. Smith, who had given his son orders to hurry home from school and clean the back yard, "what makes you so late?"

"Teacher needed me, sir," was the meek reply.

"Couldn't she have used one of the other pupils just as well?"

"No sir. She was spanking me."

—Doherty News

* * *

Blessings on thee little dame,
Bareback girl with knees the same,
With thy rolled-down silken hose
And thy short, transparent clothes;
With thy red lips reddened more,
Smeared with lipstick from the store;
With thy make-up on thy face,
And thy bobbed hair's jaunty grace,
From my heart I give thee joy,
Glad that I was born a boy.

—Barnsdall

* * *

The traffic officer raised his hand, and the lady motorist stopped with a jerk. Said the officer, as he drew out his little book, "As soon as I saw you come around the bend I said to myself 'forty-five at least'."

"Officer," remonstrated the lady indignantly, "you are very much mistaken. It's this hat that makes me look so old."

—Magnolia Oil News

* * *

"Why do you rise so early in the morning?"

"I have to get down town early in order to park my car."

"What do you do with the extra time before working hours?"

"O, I take a street car home and have breakfast."

—The Loreco Diamond

* * *

The crap game was over and Caesar, the heavy loser, sadly pocketed the small amount of loose change he had remaining.

"Boy," Napoleon, the winner, asked, "yo' ain't much good at seben come eleben, is you?"

"Nope," answered Caesar. "Ah's always afraid it's gwine come out seven come Lebenworth."

—Independent Topics

* * *

A farmer's wife shipped a crate of eggs to a wholesale house in a city, but before doing so, she wrote on one side of them: "I got two cents for this egg. What did you pay for it?" And she added her name and address.

A year later she received an answer. It was written on the highly embellished stationery of an actor. "My dear madam," wrote he, "while playing the part of Hamlet in the far West recently, I received your egg for nothing."

—Barnsdall

* * *

Mr. Gaddis was playing golf alone. A strange boy kept following him around the course. At the seventh

☆@×!! THAT'S THE SECOND BALL I'VE DRIVEN INTO THIS @@ SUMP HOLE!
NOW LE'S SEE — THE THIRD HOLE IS NO.2 MYRTLE KNOCK KNEES, AN' FROM THERE TO NO.4 ON THE SAM SAMPSON FARM —
ONE OF THE UNFORSEEN RESULTS OF THE SUNDAY SHUT-DOWN AGREEMENT — SUNDAY FINDS FORMER STAID AND HARD-BOILED OIL FIELD WORKERS ENGAGED IN KNOCKING LITTLE WHITE BALLS ALL OVER LANDSCAPE • • •

By Roy R. Corey

hole he became impatient and turned to the boy, saying: "Son, you'll never learn to play by watching me."

"I'm not watching you," the boy replied. "I'm going fishing as soon as you dig up some more worms."

—Doherty News

* * *

Clarence acquires a mustache
'Neath his frivolous beak;
Getting is on the installment plan
A little down each week.

—Pure Oil News

* * *

Him: "For two cents I'd kiss you."

Her: "Well here's fifty cents, let's get going."

—The Loreco Diamond

* * *

"What is your brother in college?"

"A half-back."

"I mean in studies."

"Oh, in studies he's away back."

—Magnolia Oil News

Naturally

"What makes the actors lisp like that?"

"It's because the talking movies are still in their infancy."

—Mid-Continent Petroleum Courier

* * *

"One of our little pigs was sick, so I gave him some sugar."

"Sugar! What for?"

"For medicine, of course. Have you never heard of sugar-cured hams?"

—Mid-Continent Petroleum Courier

* * *

"I Go To Heve Thet Stofe"

(A little excursion in—esperanto, shall we call it?—and prodigious feat of translation by Spray department)

Yanuary 28 1929 Mr

Maneger i Wold lice to Gite A Kuientet with your Sunoco Spray Self Emulsifying i Gote only Kople treas i yuse only 50 galons Spreing So if you Pleas tely me Ho moc i Go to heve thet stofe

Lety mi Know Bout at yourrespctbol

Rout 8 Box 63B

(*Translation*)

January 28, 1929.

Mr. Manager:

I would like to get acquainted with your Sunoco Spray Self Emulsifying. I got only couple trees. I use only 50 gallons spraying. So if you please tell me how much I got to have that stuff. Let me know about it.

Yours respectable,

—Sun Oil Co. "Our Sun."

* * *

Bess: Is your boy-friend a lady-killer?

Tess: I'll say he is! He starves 'em to death.

—The Loreco Diamond

* * *

Husband (seeing wife off in train): "Now, dear, just as soon as you arrive you must telegraph."

Wife: "All right. How much will I telegraph for?"

—Magnolia Oil News

* * *

Willie: "Did Edison make the first talking machine, pa?"

Pa: "No son. God made the first one, but Edison made the first one that could be shut off."

—Barnsdall

* * *

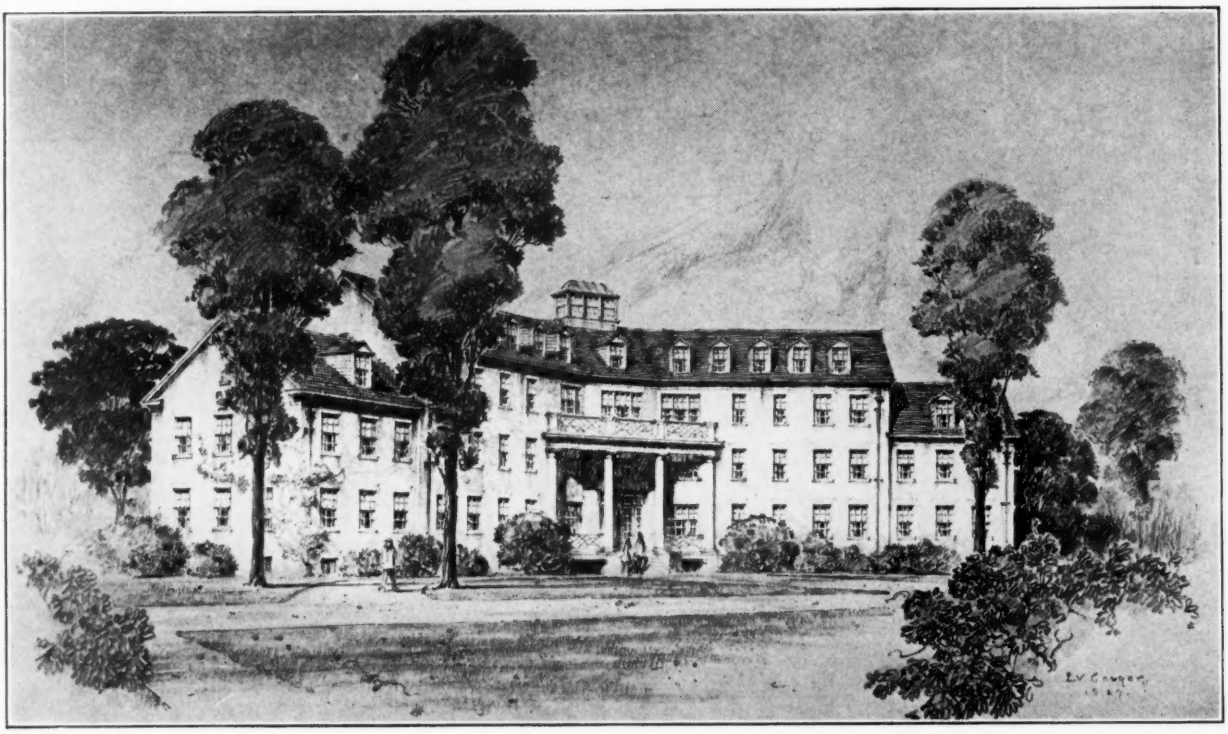
Righto

"If we let bygones be bygones, there would be less unhappiness in the world."

"Yes, but no hash."

—Mid-Continent Petroleum Courier

Pierce Petroleum Builds Tourist Hotels



ARCHITECT'S view of the type of tourist hotel which the Pierce Petroleum Corp. is building in connection with its roadside super-stations in the southwest.

One of these hotels is being built now at Rolla and another at Columbia, Mo. In the near future others are to be built at Tulsa, Oklahoma City and at Springfield, Mo.

Buildings will be of white-washed brick with jade green wood trim. Each hotel will contain 40 guest rooms. On the attic floor will be 10 rooms for chauffeurs.

Announcement of the Pierce plan of providing hotel facilities for tourists in the southwest as well as restaurants and rest rooms was made in the Feb. 13 issue of NATIONAL PETROLEUM NEWS on page 90. The article described the complete personal and automobile service which the company will provide for those traveling west of St. Louis.

New Stations Building

Note: Material used in this column is principally taken from newspapers. NATIONAL PETROLEUM NEWS assumes no responsibility for its accuracy.

Madison, Ind.—Mr. Bert Potter, filling station.

Seymound, Ind.—Lee Gorman, filling station.

Chrisman, Ill.—Mr. John Yelton, filling station.

Vermilion, S. D.—E. F. Erickson, & E. Erickson, filling station.

Minneapolis, Minn.—Fulton Morgan, filling station.

Dubuque, Ia.—Ed Stumn filling station.

Cape Girardeau, Mo.—A. O. Owens, filling station.

Hammond, La.—Paul Baltzell, filling station.

Jamestown, N. Y.—Harry W. Burgeson, filling station.

Rockland, Mass.—Standard Oil Co., filling station.

Bellows Falls, Vt.—Claremont Fuel & Supply, filling station.

Hawesville, Ky.—Gulf Refining Co., bulk station.

Auburn, Ind.—Day Bros., filling station.

Morrison, Ill.—Standard Oil Co., bulk station.

Addison, Mich.—Robert Fenn, filling station.

Watervliet, Mich.—Elwood Kelly, filling station.

Watervliet, Mich.—Nelson Bros., filling station.

Waterloo, Ia.—Shell Oil Co., filling station.

Waterloo, Ia.—Mid-Continent Petroleum Corp., filling station.

San Antonio, Tex.—Edwin Nieman, filling station.

Wellington, Kan.—Fred C. Keyes, filling station.

Estherville, Ia.—Lawrence Heinrich, filling station.

Eldorado, Kans.—Cities Service Oil Co., filling station.

Graham, Tex.—Panhandle Oil Co., filling station.

Tahoka, Tex.—S. E. Reid, filling station.

Larned, Kans.—The Phillips Petroleum Co., filling station.

Douglas, Wyo.—Florence Lumber Co., filling station.

Estherville, Ia.—Lawrence Heinrich, filling station.

Brackettville, Tex.—White Eagle Oil & Refining Co., filling station.

Akeley, Minn.—Henry Schaper, filling station.

Beaumont, Tex.—Edison Realty Co., filling station.

San Antonio, Tex.—T. T. Parker, filling station.

Charlotte, N. C.—Select Tire Service, Inc., filling station.

New Orleans, La.—Interstate Tire Co., filling station.

Miami Beach, Fla.—Dixie Tire Co., M. W. Moseley, filling station.

Streator, Ill.—Frank Quaife, filling station.

Richland, Ia.—John Widner, filling station.

Haverhill, Mass.—Standard Oil Co., filling station.

Dallas, Tex.—Davis & Inge, filling station.

Danville, Va.—Cabaniss & Wagner, filling station.

Fairmont, W. Va.—Freedom Oil Co., filling station.

Winchester, O.—Lett & Co., filling station.

Millersburg, O.—Wiley F. Work, filling station.

Bayfield, Wis.—Englund Hardware Co., filling station.

Columbus, N. D.—Carl M. Larsen, filling station.

Still Water, Minn.—John Norgren, filling station.

Fayetteville, N. C.—Gulf Refining Co., filling station.

Greenville, S. C.—A. C. Varner and T. B. Gillespie, filling station.

Winston Salem, N. C.—Gulf Refining Co., filling station.

Bellows Falls, Vt.—Claremont Fuel & Supply Co., filling station.

Wheeling, W. Va.—South Penn Oil Co., filling station.

Charlotte, N. C.—J. Caldwell McDonald, filling station.

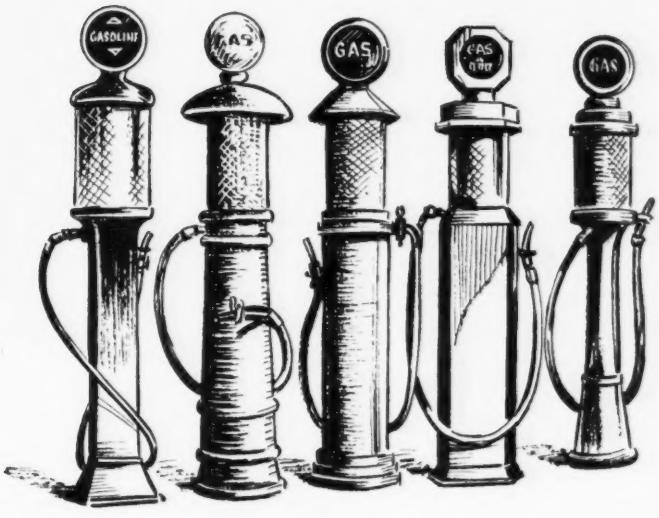
Austin, Tex.—L. B. Burnett, filling station.

Elwood, Neb.—The Perry Lumber Co., filling station.

Houston, Tex.—Humble Oil & Refining Co., filling station.

Vermilion, S. D.—E. F. Erickson and Clarence E. Erickson, filling station.

Towering above all others



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Albemarle, N. C.—F. W. Anderson & O. E. Sharkey, filling station.

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Paris, Ark.—Transcontinental Oil Co., filling station.

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Nashville, Tenn.—Firestone Tire & Rubber Co., Akron, O., service station.

Swansville, Minn.—Hansen, filling station.

Menomonie, Wis.—Mr. Wheeler, filling station.

Hudson, Wis.—Mr. Berger, filling station.

Goshen, Ind.—Service Oil Co., bulk station.

H. W. Dodge Made Texas Co. Sales Head

NEW YORK, May 17.—From messenger boy at $10 per week to general sales manager of a corporation engaged in world-wide enterprise, is the record of H. W. Dodge, The Texas Co., who recently was appointed to that newly created position with that company. Mr. Dodge was formerly in charge of northern sales territory. J. P. Gruet, who has been manager of southern sales territory, succeeds Mr. Dodge as head of northern sales.

Mr. Dodge started with The Texas Co. in 1905 at the company's general offices then located at Beaumont, Tex. His work with that company took in many clerical positions and included about every distinctive sales department position. Step by step he rose until he was made general assistant superintendent of the Houston district and later superintendent of the Oklahoma district.

In 1922 when the company created its western territory sales division, Mr. Dodge was placed in charge. When that territory was divided into the two classifications of northern and southern sales territory, he was sent to New York in charge of the northern half of the country. He has held this position until April 1 when the office of general sales manager was created. His headquarters remain at 17 Battery Place.

Mr. Gruet joined the company in 1911, starting in the lubricating sales division in New York.

Mr. Dodge obtained his schooling at Houston, being one of the first to enroll in the Rice Institute there. He was admitted to the bar in 1913 at Austin, Tex., having graduated from the University of Texas Law School.

You know the story of Little Red Riding Hood—how the wolf ate up Grandma and then attacked Little Red Riding Hood, only to be stopped by the axe of the brave woodsman who was working nearby.

There is a corollary in your business. The wolf of waste, theft and forgetfulness has big eyes to see every opportunity to eat up Red Riding Hood. (your profits.)

That is why a Niagara Oil Meter should be installed on your gasoline and oil pumps, tanks or lines. It protects your profits by giving you an absolute check on your inventory, cash and accounts receivable. When errors enter your business you know about them immediately, and you can check up on them when they occur.

And a Niagara Oil Meter repays its cost the first year by enabling you to sell at a profit gasoline and oil that would be unaccounted for without a meter.

Send today for the Niagara Oil Meter Catalogue and let us tell you why a Niagara Oil Meter is as essential as a cash register in your business.

Tear out the coupon below—it will bring complete information.

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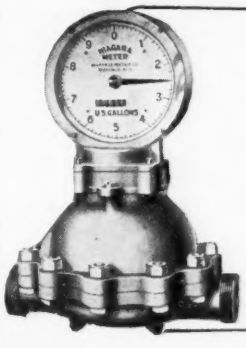

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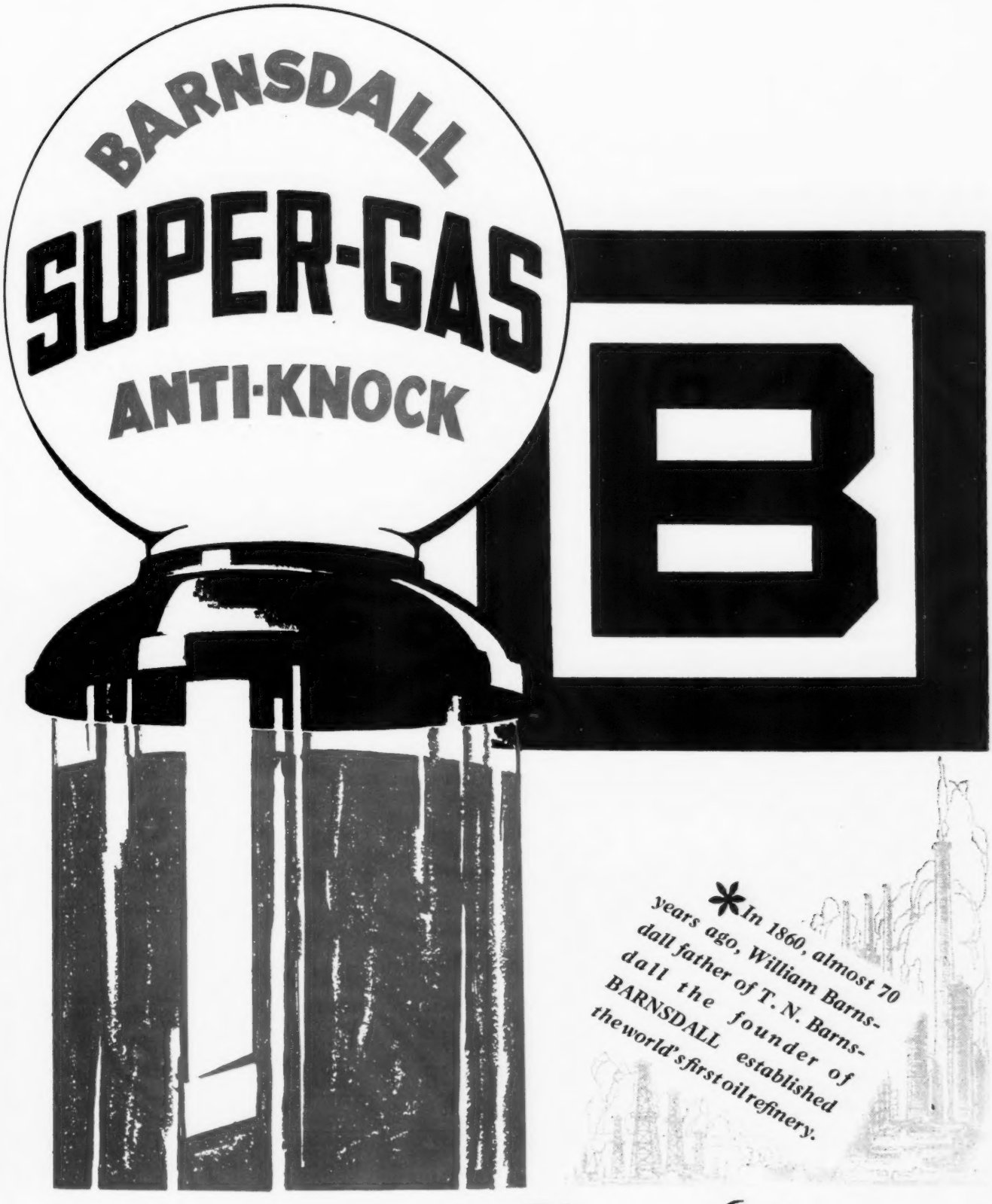

*In 1860, almost 70 years ago, William Barnsdall father of T. N. Barnsdall the founder of BARNSDALL established the world's first oil refinery.

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Curtailment Efforts Bring Decline In Crude Production in March

By Roger B. Stafford
N. P. N. STAFF WRITER

CLEVELAND, May 16

CRUDE oil production in March averaged 41,500 barrels daily less than in February. This was because of curtailment efforts in the southwest.

Oklahoma crude output was 35,100 barrels less daily in March than in February. There were small changes in other southwestern states, whose total curtailment amounted to 36,800 barrels daily average.

California fields reduced crude production 11,200 barrels daily average but Gulf Coastal fields increased recovery 3200 barrels. There was an increase of 4600 barrels daily average east of the Mississippi river and a decline of 700 barrels in the Rocky Mountains.

In spite of the curtailment, stocks of crude oil, exclusive of producers' stocks on leases, rose 6,197,000 barrels and March 31 totaled 504,230,000 barrels. This was the first time crude oil stocks held off leases exceeded the half billion-barrel mark. With producers' stocks, which are estimated by the Bureau of Mines at 9,401,000 barrels, the total above ground supply of crude oil March 31 amounted to 513,631,000 barrels.

Above ground supply of crude and refined oils amounted to 642,530,000 barrels March 31, a gain of 8,467,000 barrels in March. This volume represented 228.1 days' supply at the March rate of demand, an increase of 3.6 days' supply over the Feb. 28 stocks.

The excess of new supply over demand averaged 273,000 barrels in March, an improvement over the first two months of 1929. The excess in February averaged 316,000 barrels daily and in January 378,000 barrels daily.

The excess of new supply the first quarter of 1929 averaged 322,000 barrels daily, as compared with an excess of 257,000 barrels daily in the first quarter of 1928.

Although the volume of stocks at the end of March was much larger than the stocks at the end of March 1928, considerable improvement is shown in a comparison in terms of days' supply. The March 31, 1929, stocks represented 231.1 days' supply at the average rate of demand of the first quarter of 1929, as compared with 246.2 days' supply which the March 31, 1928, stocks represented at the rate of foreign and domestic demand in the first quarter of 1928.

In the year ended March 31, 1929, stocks of crude oil increased 20,864,000 barrels, stocks of refined oils 8,586,000 barrels, and stocks of natural gasoline 152,000 barrels, a total gain of 29,602,000 barrels.

Production of crude oil the first

High Spots in the March Bureau of Mines Report

Daily average crude production was less than the February average.

Stocks of crude oil increased 6,197,000 barrels.

Stocks of all oils increased 8,467,000 barrels.

Charges of crude oil to stills were 1.2 per cent larger than in February but charges of unfinished oils fell 32.78 per cent, bringing the average charges of all oils 0.29 per cent under the February average.

Gasoline output averaged 0.42 per cent less than in February; shipments were 13.61 per cent larger, but stocks increased 1,501,000 barrels.

Natural gasoline increased 6000 barrels daily average and stocks rose approximately 175,000 barrels.

Kerosene output was curtailed 8.05 per cent; shipments fell 13.58 per cent but stocks were lowered 355,000 barrels.

Lubricating oil output was 6.20 per cent larger than in February; shipments were 9.47 per cent larger, but stocks increased 319,000 barrels.

Refinery output of gas and fuel oils was 1.45 per cent less. Stocks at refineries east of California increased 77,000 barrels.

Petroleum Supply and Demand — Barrels

	Mar. 1929	*Feb. 1929	*Jan. 1929	Mar. 1928	Jan.-Mar. 1929	Jan.-Mar. 1928
Domestic Crude Production: Light	73,713,000	67,743,000	74,812,000	65,940,000	216,268,000	191,086,000
Heavy	8,802,000	7,950,000	7,167,000	8,569,000	23,919,000	24,607,000
Imports of crude oil	6,790,000	7,016,000	8,075,000	6,845,000	21,881,000	19,026,000
Imports of refined oil	1,489,000	908,000	884,000	1,135,000	3,281,000	3,354,000
Natural gasoline produced	4,324,000	3,736,000	3,983,000	3,471,000	12,043,000	10,200,000
Benzol used in blending	264,000	233,000	250,000	238,000	747,000	681,000
Total new supply of all oils	95,382,000	87,586,000	95,171,000	86,198,000	278,139,000	248,954,000
Total stocks end of preceding month	634,063,000	625,199,000	613,483,000	606,974,000	613,483,000	589,607,000
Total supply of all oils	729,445,000	712,785,000	708,654,000	693,172,000	891,622,000	838,661,000
Exports of crude oil	1,572,000	1,678,000	1,972,000	1,530,000	5,222,000	4,005,000
Exports of refined oil	10,801,000	9,506,000	11,714,000	11,247,000	32,021,000	32,559,000
Domestic demand, crude and refined	74,542,000	67,538,000	69,769,000	67,467,000	211,849,000	189,069,000
Total demand	86,915,000	78,722,000	83,455,000	80,244,000	249,092,000	225,633,000
Total stocks of all oils end of month	642,530,000	634,063,000	625,199,000	612,928,000	642,530,000	612,928,000
Days' supply	228.1	224.5	232.2	235.7	231.1	246.2
Increase in stocks of all oils	8,467,000	8,864,000	10,660,000	5,954,000	29,047,000	23,321,000
Daily average new supply	3,077,000	3,128,000	3,070,000	2,781,000	3,090,000	2,736,000
Daily average demand	2,804,000	2,812,000	2,692,000	2,589,000	2,768,000	2,479,000
Daily average excess of supply	273,000	316,000	378,000	192,000	322,000	257,000
Crude stocks east of Calif. Light	327,634,000	325,766,000	322,749,000	318,071,000	327,634,000	318,071,000
Heavy	52,025,000	51,173,000	50,164,000	51,178,000	52,025,000	51,178,000
In California: Light	24,067,000	21,810,000	19,196,000	19,633,000	24,067,000	19,633,000
Heavy	100,504,000	99,284,000	98,682,000	94,484,000	100,504,000	94,484,000
Total stocks of crude	504,230,000	498,033,000	490,791,000	483,366,000	504,230,000	483,366,000
Total stocks of refined	137,305,000	135,209,000	133,667,000	128,719,000	137,305,000	128,719,000
Total stocks of natural gasoline	995,000	821,000	741,000	843,000	995,000	843,000

*Revised.

Crude Oil Production by States and Fields—Barrels

	Mar. 1929 Daily Avg.	Feb. 1929 Daily Avg.	Mar. 1928 Daily Avg.	Jan.-Mar. 1929 Total	Jan.-Mar. 1928 Total	1929 Change Over 1928
California	784,700	796,500	616,710	70,012,000	56,184,000	+24.61
Gulf Coast Louisiana	18,800	19,300	14,774	1,848,000	1,286,000	+43.70
Gulf Coast Texas	121,500	117,800	103,290	10,595,000	9,277,000	+14.21
Total Gulf Coast	140,300	137,100	118,065	12,443,000	10,563,000	+17.80
Colorado	6,600	6,600	8,355	604,000	707,000	—14.57
Montana	9,100	9,800	11,355	863,000	1,076,000	—19.79
New Mexico	2,900	2,400	2,452	234,000	221,000	+5.88
Wyoming	50,400	50,900	59,774	4,530,000	5,107,000	—11.30
Total Rocky Mountain	69,000	69,700	81,936	6,231,000	7,111,000	—12.37
Arkansas	75,500	76,600	86,516	6,810,000	7,983,000	—14.69
Kansas	99,600	101,300	114,774	8,851,000	10,149,000	—12.79
Oklahoma	681,700	716,800	646,258	64,087,000	60,089,000	+6.65
North Louisiana	34,900	34,800	43,000	3,108,000	3,983,000	—21.97
Inland Texas	660,400	659,400	582,645	58,507,000	49,810,000	+17.46
Total Southwestern	1,552,100	1,588,900	1,473,193	141,363,000	132,014,000	+7.08
Illinois	19,400	16,200	20,516	1,561,000	1,663,000	—6.53
Indiana	2,700	3,000	2,516	254,000	237,000	+7.17
Ohio	17,600	17,200	19,839	1,561,000	1,738,000	—10.18
Kentucky	18,000	18,200	20,097	1,656,000	1,723,000	—3.88
Pennsylvania	29,600	28,800	26,903	2,572,000	2,366,000	+8.71
West Virginia	15,100	14,400	16,258	1,333,000	1,426,000	—6.52
New York	8,600	8,600	6,387	762,000	567,000	+34.39
Michigan	4,700	4,600	935	434,000	90,000	+382.22
Tennessee	.....	100	161	5,000	11,000	—54.55
Total Eastern	115,700	111,100	113,612	10,138,000	9,821,000	+3.23
GRAND TOTAL U. S.	2,661,800	2,703,300	2,403,516	240,187,000	215,693,000	+11.36

quarter of 1929 was 24,494,000 barrels or 11.36 per cent more than in the first quarter of 1928 although there was one day less in which to produce in the 1929 quarter.

California led in the increase in production this year, accounting for 13,828,000 barrels of the gain, or more than half. The Mid-Continent contributed more than 9,000,000 barrels to the increase and the Gulf Coastal pools almost 2,000,000 barrels.

Stocks of crude oil held at refineries east of California totaled 46,257,000 barrels March 31, a gain of 1,667,000 barrels in March. Stocks in pipe lines and at tanks farms east of California increased 1,164,000 barrels to 333,110,000 barrels March 31. There were gains in both light and heavy grades of California crude.

Although more crude and natural gasoline was charged to stills in March than in February the volume of unfinished oils run was reduced a third, bringing the total average charges to stills slightly under the February average.

Charges of crude oil at refineries on the Gulf and Atlantic coasts were less in March but an increase of more than 22,000 barrels in runs in California brought the total runs of crude at tide water refineries up more than 11,000 barrels.

Runs of crude in the Mid-Continent were increased 16,000 barrels daily average and at Rocky Mountain refineries 3,000 barrels average. There

Crude Oil Imports—Barrels

Origin	March Daily Av.	February Daily Av.	Jan.-Mar. 1929 Total	Jan.-Mar. 1928 Total
Mexico	18,900	18,900	1,899,000	3,715,000
Venezuela	158,800	171,100	15,336,000	10,742,000
Colombia	28,600	49,200	3,538,000	3,839,000
Other countries	12,700	11,400	1,108,000	730,000
Total	219,000	250,600	21,881,000	19,026,000

Crude Oil Exports—Barrels

Destination	March Daily Av.	February Daily Av.	Jan.-Mar. 1929 Total	Jan.-Mar. 1928 Total
Canada	40,300	48,300	4,110,000	3,161,000
Other countries	10,400	11,600	1,112,000	838,000
Total	50,700	59,900	5,222,000	3,999,000

Runs to Stills—Barrels—Daily Average

Districts	CRUDE OIL March 1929	CRUDE OIL February 1929	UNFINISHED OIL March 1929	UNFINISHED OIL February 1929	NATURAL GASOLINE March 1929	NATURAL GASOLINE February 1929	TOTAL INPUT Daily Average March 1929	TOTAL INPUT Daily Average February 1929
Texas Gulf Coast: Domestic	410,484	414,750	4,290	35,929	23,581	20,357	438,355	471,036
Foreign	3,806	1,321	.....	.....	.....	.....	3,806	1,321
Louisiana Gulf Coast: Domestic	122,613	126,392	226	.....	17,806	12,250	140,645	138,642
Foreign	27,935	25,821	.....	.....	.....	.....	27,935	25,821
Total Gulf Coast	564,838	568,284	4,516	35,929	41,387	32,607	610,741	637,820
East Coast: Domestic	267,193	266,392	26,871	32,679	5,710	12,142	299,774	311,213
Foreign	181,613	189,964	.....	.....	.....	.....	181,613	189,964
Total East Coast	448,806	456,356	26,871	32,679	5,710	12,142	481,387	501,177
California	633,193	610,571	11,516	17,250	45,613	36,214	690,322	664,035
Total Tide Water	1,646,837	1,635,211	42,903	85,858	92,710	80,963	1,782,450	1,802,032
Appalachian	89,258	86,321	3,226	5,571	1,613	2,179	94,097	94,071
Ind., Ill., Ky.	274,322	276,929	21,710	26,107	5,193	5,107	301,225	308,143
Total East Central	363,580	363,310	24,936	31,678	6,806	7,286	395,322	402,274
Oklahoma, Kans., Mo.	299,935	289,321	14,839	17,643	9,065	9,071	323,839	316,035
Inland Texas	151,000	150,642	2,677	3,321	4,097	3,607	157,774	157,570
No. La. and Ark.	72,032	66,929	355	214	3,742	3,392	76,129	70,535
Total Southwestern	522,967	506,892	17,871	21,178	16,904	16,070	557,742	544,140
Rocky Mountain	70,097	67,179	20,161	18,786	4,161	3,750	94,419	89,715
Total Inland	956,644	937,381	62,968	71,642	27,871	27,106	1,047,483	1,036,129
TOTAL UNITED STATES	2,603,481	2,572,592	105,871	157,500	120,581	108,069	2,829,933	2,838,100
Change March over February	+ 1.26%	.....	—32.78%	.....	+11.57%	.....	— 0.29%	.....
Runs, March, 1928	2,326,580	.....	112,903	.....	87,322	.....	2,526,806	.....
Change Runs March, 1929, over March, 1928	+11.90%	.....	+62.02%	.....	+38.10%	.....	+11.90%	.....

100% in every WAY

CORECO PENNSYLECT MOTOR OILS

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First: The very best motor oil that can be made from Nature's finest materials.

Second: Special tests of Crude Petroleum are made every thirty minutes to insure uniform quality always.

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Fourth: Assurance of repeat business from the retail trade because CORECO quality never has been nor ever will be sacrificed for greater production.

Study the CORECO PENNSYLECT specifications given below and compare this extra quality Pennsylvania Motor Oil with any other—in any way.

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Heavy Medium	29.3	455	520	6 Plus	65/67	30
Heavy	28.4	465	535	7	80/82	30
Extra Heavy	27.7	480	555	7 Plus	97/100	30
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The Continental Refining Company
Oil City, Pennsylvania

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Oil City, Pa.

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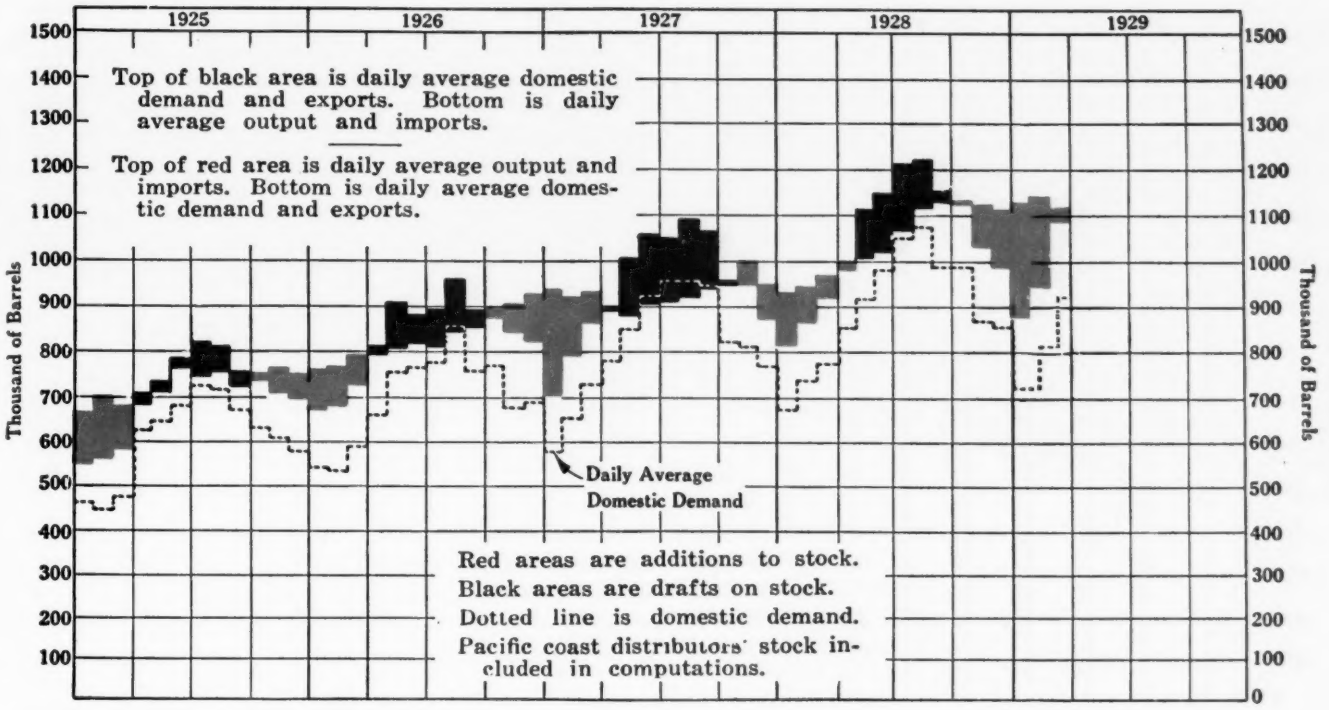
Name .....

Address .....

City ..... State .....

CORECO PENNSYLECT MOTOR OIL

Gasoline Production and Consumption


1925
1926
1927
1928
1929
Top of black area is daily average domestic demand and exports. Bottom is daily average output and imports.
Top of red area is daily average output and imports. Bottom is daily average domestic demand and exports.
Thousand of Barrels
Daily Average Domestic Demand
Red areas are additions to stock.
Black areas are drafts on stock.
Dotted line is domestic demand.
Pacific coast distributors' stock included in computations.

March domestic production.....	1,112,000 Bbls. daily av.	March exports	155,000 Bbls. daily av.
March imports	11,000 Bbls. daily av.		
Total new supply	1,123,000 Bbls. daily av.	Total indicated demand	1,074,000 Bbls. daily av.
March domestic shipments.....	919,000 Bbls. daily av.	Stocks March 31, 1929.....	47,205,000 Bbls.
		Increase in stocks in March.....	1,499,000 Bbls.
		Stocks March 31, 1928.....	41,078,000 Bbls.

was only a trivial increase at plants in the East Central and Appalachian states.

Curtailment of gasoline output at East Coast and Gulf Coastal Texas plants was responsible in main for the small decrease in gasoline output for the whole country. This curtailment more than offset a large increase in production at California refineries.

There was a small gain at Mid-Continent refineries and a small decline at inland plants east of the Mississippi.

Only California and Gulf Coastal Texas refineries shipped less gasoline in March than in February on the daily average. The largest gains in shipments were from East Coast and Rocky Mountain plants but only the East Coast and North Louisiana-Arkansas plants were able to lower stocks of gasoline.

Movement of California gasoline through the Panama canal to eastern United States ports totaled 1,550,000 barrels in March as compared with 1,735,000 barrels in February. This movement the first quarter of 1929 totaled 5,108,000 barrels as compared with 3,132,000 barrels in the first quarter of 1928.

Although production of natural gasoline in March was not so much larger than production in February, there was considerable accumulation

Gasoline Situation by Districts — Barrels

Districts	Mar. 1929 Daily Avg. Output	Feb. 1929 Daily Avg. Output	March Change %	March Daily Avg. Shipments	Feb. Daily Avg. Shipments	March Change %	Stocks March 1929	Stocks Feb. 1929	Stocks March 1928	Districts
Gulf Coast Texas..	181,419	201,464	— 9.94	172,677	173,928	— 0.72	6,322,000	6,051,000	4,742,000	..Gulf Coast Texas
Gulf Coast Louis...	63,290	62,393	+ 1.44	60,484	53,928	+12.16	2,848,000	2,761,000	1,617,000	..Gulf Coast Louis.
Total Gulf.....	244,709	263,857	— 7.26	233,161	227,856	+ 2.32	9,170,000	8,812,000	6,359,000	.....Total Gulf
East Coast.....	140,355	153,250	— 8.41	161,903	123,071	+31.55	6,541,000	7,209,000	7,101,000	.....East Coast
California.....	239,226	213,393	+12.10	203,516	211,536	— 3.79	11,293,000	10,186,000	12,612,000	.....California
Total Coastal....	624,290	630,500	— 0.98	598,580	562,463	+ 6.42	27,004	26,207,000	26,072,000	....Total Coastal
Appalachian.....	43,065	42,071	+ 2.36	38,645	32,607	+18.52	2,007,000	1,870,000	1,352,000	.....Appalachian
Ind., Ill., Ky., etc...	159,774	164,071	— 2.62	150,387	116,536	+29.04	8,415,000	8,124,000	5,617,000	..Ind., Ill., Ky., etc.
Total East Cent.	202,839	206,142	— 1.60	189,032	149,143	+26.74	10,422,000	9,994,000	6,969,000	Total East Cent.
Okla., Kans., Mo...	162,129	161,893	+ 0.15	158,710	129,286	+22.76	5,849,000	5,743,000	4,060,000	..Okla., Kans., Mo.
Inland Texas.....	55,387	55,964	— 1.03	54,548	50,750	+ 7.48	986,000	960,000	906,000	.....Inland Texas
No. La. and Ark...	21,258	18,679	+13.81	22,193	16,822	+31.93	271,000	300,000	108,000	..No. La. and Ark.
Total Southwest.	238,774	236,536	+ 0.94	235,451	196,858	+19.60	7,106,000	7,003,000	5,074,000	Total Southwest.
Rocky Mountain...	45,935	43,393	+ 5.86	40,356	27,536	+46.55	2,673,000	2,500,000	2,114,000	..Rocky Mountain
Total Inland....	487,548	486,071	+ 0.30	464,839	373,537	+24.44	20,201,000	19,497,000	14,157,000	....Total Inland
TOTAL U. S....	1,111,838	1,116,571	— 0.42	1,063,419	936,000	+13.61	47,205,000	45,704,000	40,229,000	...TOTAL U. S.
Imports.....	10,548	13,097	—19.46	.....	.....	.....	.....	.....	.....	.....Imports
Exports.....	.....	.....	.....	154,774	123,806	+25.01	.....	.....	.....	.....Exports
Average new supply										..Avg. new supply
Avg. ship. to dom. distributors or users	1,122,386	1,129,668	— 0.64	.....	.....	.....	.....	.....	.....	Avg. ship. to dom. distributors or users
	.....	.....	.....	908,645	812,194	+11.88	.....	.....	.....	

of stocks in parts of the Mid-Continent.

Decline in kerosene production was mostly at Gulf Coastal Texas plants. California refineries showed a considerable increase in shipments of kerosene. A smaller gain was made by Oklahoma-Kansas-Missouri refineries. Stocks, however, were lowered in all but the Coastal Louisiana, East Coast and inland Texas plants. Stocks March 31 were almost as small as stocks at the end of March, 1928.

Output of lubricating oils was stepped up in all but the Coastal Louisiana and California districts which ordinarily produce only a small part of the country's lubricants. Shipments slumped in only the East Coast district. Stocks were lowered in the California, Appalachian, Indiana-Illinois, Oklahoma-Kansas-Missouri, and Rocky Mountain districts.

Both domestic and export demand for paraffin wax continued light and stocks continued their steady increase which began last September. Production of wax in March averaged 1,818,450 pounds a day as compared with 1,786,680 pounds in February and 1,899,510 pounds in January.

East and Gulf Coast and Indiana-Illinois district plants reduced output of gas and fuel oils. Shipments

Gasoline Supply and Demand — Barrels

	Production	Imports	Exports	Domestic Shipments	Stocks End of Month
January, 1928	27,981,000	562,000	3,713,000	20,778,000	37,368,000
February	26,856,000	372,000	3,341,000	21,402,000	39,853,000
March	29,276,000	259,000	4,016,000	24,294,000	41,078,000
Total Three Months	84,113,000	1,193,000	11,070,000	66,474,000	41,078,000
April	29,317,000	472,000	4,111,000	25,567,000	41,189,000
May	30,825,000	368,000	5,812,000	28,346,000	38,224,000
June	30,703,000	212,000	4,808,000	29,469,000	34,862,000
July	32,974,000	267,000	5,167,000	32,542,000	30,394,000
August	34,101,000	479,000	4,563,000	33,336,000	27,075,000
September	33,669,000	193,000	4,837,000	29,722,000	26,378,000
October	34,403,000	388,000	4,049,000	30,680,000	26,440,000
November	33,171,000	304,000	4,678,000	26,052,000	29,185,000
December	33,907,000	420,000	3,802,000	26,644,000	33,066,000
1928 Total	377,183,000	4,296,000	52,897,000	328,832,000	33,066,000
January, 1929	34,335,000	499,000	4,650,000	22,602,000	40,648,000
February	31,264,000	406,000	3,838,000	22,776,000	45,704,000
March	34,467,000	327,000	4,798,000	28,495,000	47,205,000
Total Three Months	100,066,000	1,232,000	13,286,000	73,873,000	47,205,000
Change This Year Over Like Period Last Year	+15,953,000	+39,000	+2,216,000	+7,399,000	+6,127,000
Per Cent	+18.96	+3.27	+20.02	+11.13	+14.91

Kerosene Supply and Demand — Barrels

	Production	Imports	Exports	Domestic Shipments	Stocks End of Month
January, 1928	5,058,000	46,000	2,350,000	2,799,000	7,670,000
February	4,749,000	11,000	1,551,000	3,266,000	7,613,000
March	4,715,000	6,000	1,852,000	2,722,000	7,760,000
Total Three Months	14,522,000	63,000	5,753,000	8,787,000	7,760,000
April	5,033,000	20,000	1,912,000	3,168,000	7,733,000
May	5,243,000	1,000	2,057,000	3,383,000	7,537,000
June	4,849,000	24,000	1,655,000	2,323,000	8,432,000
July	4,994,000	19,000	1,834,000	3,141,000	8,470,000
August	5,389,000	2,000	1,678,000	3,296,000	8,887,000
September	5,060,000	.....	2,090,000	3,264,000	8,593,000
October	5,190,000	55,000	1,755,000	3,469,000	8,614,000
November	4,908,000	.....	2,091,000	2,545,000	8,886,000
December	4,968,000	20,000	1,241,000	3,632,000	9,001,000
1928 Total	60,156,000	204,000	22,066,000	38,008,000	9,001,000
January, 1929	4,700,000	38,000	1,918,000	2,956,000	8,865,000
February	4,435,000	20,000	1,591,000	3,519,000	8,210,000
March	4,515,000	5,000	1,899,000	2,976,000	7,855,000
Total Three Months	13,650,000	63,000	5,408,000	9,451,000	7,855,000
Change This Year Over Like Period Last Year	—872,000	0	—345,000	+664,000	+95,000
Per Cent	—6.45	0	—6.00	+7.55	+1.22

Stocks of Crude Oil

(DOMESTIC UNLESS OTHERWISE SPECIFIED. AMOUNTS IN THOUSANDS OF BARRELS)

AT REFINERIES

(Reported by Location of Storage)

	Mar. 1929	Feb. 1929	Mar. 1928
East Coast:			
Domestic	9,050	9,129	8,706
Foreign	6,380	5,690	5,414
Appalachian	2,496	2,358	2,060
Indiana, Illinois, etc.	2,930	2,839	3,015
Oklahoma, Kansas, etc.	5,920	5,982	5,759
Texas Inland	1,952	1,855	1,665
Texas Gulf Coast:			
Domestic	8,417	8,190	7,868
Foreign	392	273	383
Ark. and inland La.	1,310	1,260	654
Louisiana Gulf Coast:			
Domestic	2,986	3,103	5,859
Foreign	2,316	1,845	1,080
Rocky Mountain	2,108	2,066	1,655
U. S. east of Calif.	46,257	44,590	44,118

AT TANK FARMS, IN PIPE LINES AND ELSEWHERE THAN REFINERIES

(Reported by Field of Origin)

Appalachian	4,695	4,624	6,181
Kentucky	798	815	1,121
Lima-Indiana	994	1,085	1,210
Ill. S. W. Indiana	11,343	11,254	12,208
Okla., Kans., Tex., except coastal	246,035	244,863	234,531
N. La.-Ark.	25,212	25,842	25,677
Gulf Coast	19,091	18,344	16,779
Rocky Mountain	24,942	25,119	27,304
East of Calif. pipe line and tank farm stocks	333,110	331,946	325,011
Foreign Crude:			
Atlantic ports	59	83	75
Gulf ports	233	320	45
Total refinery, pipe line and tank farm stocks east of Calif.	379,659	376,939	369,249
California:			
20° and lighter	24,067	21,810	19,633
Heavier than 20°	100,504	99,284	94,484
GRAND TOTAL	504,230	498,803	483,366

CLASSIFICATION BY GRAVITY

(East of California)

24° and lighter	327,634	325,766	318,071
Heavier than 24°	52,025	51,173	51,178

PRODUCERS' STOCKS

(Approximate)

East of Calif.	7,550	7,500	.....
California	1,851	1,863	.....

Kerosene Situation by Districts — Barrels

Districts	Mar. 1929 Daily Avg. Output	Feb. 1929 Daily Avg. Output	March Change %	March Daily Avg. Shipments	Feb. Daily Avg. Shipments	March Change %	Stocks March 1929	Stocks Feb. 1929	Stocks March 1928	Districts
Gulf Coast Texas	19,678	35,893	—45.18	25,871	36,857	—29.81	1,274,000	1,466,000	1,399,000	Gulf Coast Texas
Gulf Coast Louis.	14,000	12,250	+14.28	12,161	22,500	—45.95	674,000	617,000	1,099,000	Gulf Coast Louis.
Total Gulf	33,678	48,143	—30.05	38,032	59,357	—35.93	1,948,000	2,083,000	2,498,000	Total Gulf
East Coast	22,935	20,750	+10.53	20,484	26,071	—21.43	1,153,000	1,077,000	1,592,000	East Coast
California	23,839	29,964	—25.69	28,871	21,893	+31.87	2,817,000	2,973,000	1,629,000	California
Total Coastal	80,452	98,857	—18.62	87,387	107,321	—18.57	5,918,000	6,133,000	5,719,000	Total Coastal
Appalachian	9,000	9,107	— 1.17	9,290	9,464	— 1.84	286,000	295,000	285,000	Appalachian
Ind., Ill., Ky., etc.	14,484	13,143	+10.20	15,194	20,107	—24.43	657,000	679,000	876,000	Ind., Ill., Ky., etc.
Total East Cent.	23,484	22,250	+ 5.54	24,484	29,571	—17.20	943,000	974,000	1,161,000	Total East Cent.
Okla., Kans., Mo.	29,064	25,000	+16.26	30,806	29,429	+ 4.68	595,000	649,000	525,000	Okla., Kans., Mo.
Inland Texas	7,774	8,214	— 5.36	7,516	8,214	— 8.50	93,000	85,000	94,000	Inland Texas
No. La. and Ark.	1,645	1,500	+ 9.67	1,710	1,821	— 6.10	23,000	25,000	13,000	No. La. and Ark.
Total Southwest.	38,483	34,714	+10.86	40,032	39,464	+ 1.44	711,000	759,000	632,000	Total Southwest.
Rocky Mountain	3,226	2,571	+25.48	5,194	5,428	— 4.31	283,000	344,000	314,000	Rocky Mountain
Total Inland	65,193	59,535	+ 9.50	69,710	74,463	— 6.38	1,937,000	2,077,000	2,107,000	Total Inland
TOTAL U. S.	145,645	158,392	— 8.05	157,097	181,784	—13.58	7,855,000	8,210,000	7,826,000	TOTAL U. S.
Imports	161	645	—75.04	.....	.....	.....	.....	.....	.....	Imports
Exports	.....	.....	.....	61,258	51,322	+19.36	.....	.....	.....	Exports
Average new supply										Avg. new supply
Avg. ship. to dom. distributors or users	145,806	159,037	— 8.32	.....	.....	.....	.....	.....	.....	Avg. ship. to dom. distributors or users
	.....	.....	.....	95,839	130,462	—26.54	.....	.....	.....	

Gas and Fuel Oil Situation by Districts — Barrels

Districts	Mar. 1929 Daily Avg. Output	Feb. 1929 Daily Avg. Output	March Change %	March Daily Avg. Shipments	Feb. Daily Avg. Shipments	March Change %	Stocks March 1929	Stocks Feb. 1929	Stocks March 1928	Districts
Gulf Coast Texas..	169,452	184,071	— 7.94	168,258	206,643	—18.57	8,620,000	8,583,000	6,255,000	Gulf Coast Texas
Gulf Coast Louis...	54,742	62,928	—13.01	63,871	71,964	—11.24	4,208,000	4,491,000	3,955,000	..Gulf Coast Louis.
Total Gulf.....	224,194	246,999	— 9.23	232,129	278,607	—16.68	12,828,000	13,074,000	10,210,000	.....Total Gulf
East Coast.....	248,677	259,107	— 4.03	250,839	274,607	— 8.65	4,600,000	4,667,000	9,414,000	.....East Coast
California.....	382,161	367,786	+ 3.91	.....	.....	.....	.....	.....	.....	.....California
Total Coastal....	855,032	873,892	— 2.16	482,968	553,214	—12.70	17,428,000	17,741,000	19,624,000	....Total Coastal
Appalachian.....	19,484	19,143	+ 1.78	21,000	22,428	— 6.36	1,024,000	1,071,000	929,000	.....Appalachian
Ind., Ill., Ky., etc...	93,226	98,214	— 5.08	89,516	111,357	—19.61	2,104,000	1,989,000	1,222,000	..Ind., Ill., Ky., etc.
Okla., Kans., Mo...	101,645	99,071	+ 2.60	97,065	117,856	—17.64	4,683,000	4,541,000	4,448,000	..Okla., Kans., Mo.
Inland Texas.....	78,000	77,822	+ 0.23	78,355	76,535	+ 2.38	2,718,000	2,729,000	1,554,000	.....Inland Texas
N. La. and Ark.....	43,548	42,250	+ 3.07	38,613	42,250	— 8.61	1,162,000	1,009,000	612,000	....N. La. and Ark.
Rocky Mountain...	17,323	15,714	+10.24	16,097	20,500	—21.47	1,076,000	1,038,000	781,000	...Rocky Mountain
Total Inland.....	353,226	352,214	+ 0.29	340,646	390,926	—12.86	12,767,000	12,377,000	9,546,000	....Total Inland
TOTAL U. S.....	1,208,258	1,226,106	— 1.45	823,614	944,140	—12.77	30,195,000	30,118,000	29,170,000	....TOTAL U. S.
Imports.....	36,968	15,032	+145.93	.....	.....	.....	.....	.....	.....	.....Imports
Exports.....	.....	.....	.....	83,871	90,161	— 6.98	.....	.....	.....	.....Exports
Avg. new supply...	1,245,226	1,241,138	+ 0.33	.....	.....	.....	.....	.....	.....	Avg. New supply
Avg. ship. to dom. distributors or users	.....	.....	.....	739,743	853,979	—13.38	.....	.....	.....	Avg. ship. to dom. distributors or users

from only inland Texas refineries were larger than February shipment. East of California stocks were lowered in the Coastal Louisiana, East Coast, Appalachian and inland Texas plants.

Changes in new supply, demand and stocks of gasoline, kerosene, lubricating oils, and paraffin wax in the first quarter of 1929 as compared with changes in the first quarter of 1928 were as follows:

Gasoline

	Barrels	Per Cent
Gain in New Sup...	15,992,000	18.74
Gain in Tot. Demand	9,615,000	12.40
Gain in Stocks in 12 mos.	6,127,000	14.91

Kerosene

Decline in New Sup.	872,000	5.97
Gain in Tot. Demand	299,000	2.05
Gain in Stocks in 12 mos.	95,000	1.22

Lubricating Oils

Gain in New Supply	138,000	1.67
Gain in Tot. Demand	148,000	1.91
Gain in Stocks in 12 mos.	470,000	5.60

Paraffin Wax

	Pounds	Per Cent
Gain in New Sup.	15,034,000	9.46
Dec. in Tot. Demand	64,142,000	33.75
Gain in Stocks in 12 mos.	38,882,000	32.53

The March report, compiled under the supervision of G. R. Hopkins of the Bureau of Mines, was for 330 refineries with a rated daily crude capacity of 3,342,500 barrels. These plants were being operated at 78 per cent of their rated capacity. In February 328 plants reported as operating at 76 per cent of their rating.

Gas and Fuel Oil Supply and Demand — Barrels

	Production	Imports	Exports	Domestic Shipments	*Stocks End of Month
January, 1928.....	33,013,000	553,000	4,175,000	.....	30,665,000
February.....	31,897,000	666,000	3,420,000	.....	29,560,000
March.....	34,437,000	848,000	3,969,000	.....	29,104,000
Total Three Months.....	99,347,000	2,067,000	11,564,000	.....	29,104,000
April.....	33,870,000	1,176,000	4,211,000	.....	29,669,000
May.....	35,620,000	784,000	3,612,000	.....	32,887,000
June.....	35,765,000	468,000	4,238,000	.....	36,085,000
July.....	36,754,000	484,000	4,261,000	.....	36,410,000
August.....	37,390,000	515,000	3,420,000	.....	39,236,000
September.....	37,004,000	397,000	3,226,000	.....	39,900,000
October.....	36,941,000	320,000	3,356,000	.....	39,599,000
November.....	35,771,000	411,000	3,320,000	.....	37,878,000
December.....	37,293,000	646,000	3,254,000	.....	34,926,000
1928 Total.....	425,755,000	7,268,000	44,462,000	.....	34,926,000
January, 1929.....	36,838,000	335,000	3,699,000	.....	32,522,000
February.....	34,331,000	466,000	2,795,000	.....	30,118,000
March.....	37,456,000	1,146,000	2,600,000	.....	30,195,000
Total Three Months.....	108,635,000	1,947,000	9,094,000	.....	30,195,000
Change This Year Over Like Period Last Year.....	+9,288,000	—120,000	—2,470,000	.....	+1,091,000
Per Cent.....	+9.35	—5.80	—21.36	.....	+3.75

*East of California only.

Stoll Heads Chest Fund

LOUISVILLE, May 16.—William A. Stoll, secretary and treasurer of the Stoll Oil Refining Co., was elected president of the Louisville Community Chest on May 14. He will be head of the group which administers funds for the combined charities of the city. This year the chest raised $705,000 to maintain the charities until 1930.

Lubricant Situation by Districts — Barrels

Districts	Mar. 1929 Daily Avg. Output	Feb. 1929 Daily Avg. Output	March Change %	March Daily Avg. Shipments	Feb. Daily Avg. Shipments	March Change %	Stocks March 1929	Stocks Feb. 1929	Stocks March 1928	Districts
Gulf Coast Texas..	23,161	20,786	+11.42	16,839	16,678	+ 0.96	2,189,000	1,993,000	1,675,000	Gulf Coast Texas
Gulf Coast Louis...	2,355	2,464	— 4.42	2,323	2,107	+10.25	109,000	108,000	119,000	..Gulf Coast Louis.
Total Gulf.....	25,516	23,250	+ 9.74	19,162	18,785	+ 2.01	2,298,000	2,101,000	1,794,000	.....Total Gulf
East Coast.....	27,903	27,536	+ 1.33	17,903	38,679	—53.71	2,908,000	2,598,000	3,043,000	.....East Coast
California.....	5,934	6,000	— 1.11	8,000	5,392	+48.37	892,000	956,000	823,000	.....California
Total Coastal....	59,352	56,786	+ 4.52	45,065	62,856	—28.30	6,098,000	5,655,000	5,660,000	....Total Coastal
Appalachian.....	14,226	13,107	+ 8.54	14,387	12,786	+12.52	1,236,000	1,241,000	1,066,000	.....Appalachian
Ind., Ill., Ky., etc...	10,774	9,536	+12.98	12,742	9,250	+37.75	742,000	803,000	914,000	..Ind., Ill., Ky., etc.
Okla., Kans., Mo...	7,291	7,000	+ 4.16	8,742	5,821	+50.18	525,000	570,000	565,000	..Okla., Kans., Mo.
Inland Texas.....	1,194	1,000	+19.40	1,194	1,072	+11.38	65,000	65,000	68,000	.....Inland Texas
N. La. and Ark.....	258	215	+20.00	226	179	+26.26	4,000	3,000	.....	....N. La. and Ark.
Rocky Mountain...	1,839	1,750	+ 5.09	2,291	1,536	+49.15	183,000	197,000	139,000	...Rocky Mountain
Total Inland....	35,581	32,608	+ 9.12	39,582	30,644	+29.17	2,755,000	2,879,000	2,752,000	....Total Inland
TOTAL U. S.....	94,935	89,394	+ 6.20	84,647	93,500	— 9.47	8,853,000	8,534,000	8,412,000	....TOTAL U. S.
Imports.....	64	143	—55.24	.....	.....	.....	.....	.....	.....	.....Imports
Exports.....	.....	.....	.....	33,710	31,108	+ 8.36	.....	.....	.....	.....Exports
Avg. new supply...	94,999	89,537	+ 6.10	.....	.....	.....	.....	.....	.....	Avg. New supply
Avg. ship. to dom. distributors or users	.....	.....	.....	50,937	62,392	—18.36	.....	.....	.....	Avg. ship. to dom. distributors or users

Asks Data on Sulphur in Gasoline

CLEVELAND, May 17

UNIVERSAL OIL PRODUCTS CO., wants to obtain more complete data in regard to the possible corrosive effects of sulfur in motor fuel. It asks readers of NATIONAL PETROLEUM NEWS to throw any light they can on this subject by answering the following questions:

The first section of this questionnaire will apply only to refiners, the remainder to any person or organization making use of motor vehicles.

1. What is the percentage of sulfur in the following oils in your refinery?

a. Crude oil (from what fields)?

b. Straight run gasoline, before and after refining.

c. Cracking stock (also type of stock, such as gas oil, fuel oil or topped crude.)

d. Pressure distillate.

e. Cracked gasoline, before and after refining.

2. Have you or your company conducted any investigation on corrosion in motors? If so, will you be kind enough to give us an account of your experience, including the following information:

a. The sulfur content and analysis of the motor fuel used.

b. The place and time of year of the test.

c. The atmospheric temperature prevailing during the test.

d. The number and make of cars, the gasoline consumption, and mileage covered.

e. In what condition were the motors at the start of the test?

f. Were the cars operated steadily or intermittently?

g. Was there any provision, such as crank case ventilation, for preventing condensation of water?

h. Did water collect in the crank case and to what extent?

i. What evidences, if any, of corrosion were found?

3. Do you know of any other company or individual which has conducted tests on sulfur corrosion? Can you give their results or conclusions, or tell us to whom to write for data regarding their work?

All the data and information received will be collated and published.

Information should be sent to the editor of NATIONAL PETROLEUM NEWS or direct to the Universal Oil Products Co., Chicago.

Lubricating Oil Supply and Demand — Barrels

	Production	Imports	Exports	Domestic Shipments	Stocks End of Month
January, 1928	2,654,000	.....	934,000	1,592,000	7,988,000
February	2,728,000	.....	841,000	1,543,000	8,332,000
March	2,878,000	.....	837,000	1,990,000	8,383,000
Total Three Months	8,260,000	.....	2,612,000	5,125,000	8,383,000
April	3,027,000	1,000	1,059,000	2,334,000	8,018,000
May	3,091,000	3,000	1,063,000	1,989,000	8,060,000
June	3,009,000	1,000	1,095,000	2,143,000	7,832,000
July	2,828,000	1,000	1,063,000	1,931,000	7,667,000
August	2,891,000	1,000	813,000	2,035,000	7,711,000
September	2,833,000	1,000	808,000	1,995,000	7,742,000
October	2,979,000	1,000	769,000	2,123,000	7,830,000
November	2,748,000	1,000	895,000	1,763,000	7,921,000
December	2,993,000	3,000	878,000	1,699,000	8,340,000
1928 Total	34,659,000	13,000	11,055,000	23,137,000	8,340,000
January, 1929	2,945,000	1,000	1,116,000	1,521,000	8,649,000
February	2,503,000	4,000	871,000	1,751,000	8,534,000
March	2,943,000	2,000	1,045,000	1,581,000	8,853,000
Total Three Months	8,391,000	7,000	3,032,000	4,853,000	8,853,000
Change This Year Over Like Period Last Year	+131,000	+7,000	+420,000	—272,000	+470,000
Per Cent	+1.58	+100.00	+16.07	—5.31	+5.60

Paraffin Wax Supply and Demand — Pounds

	Production	Imports	Exports	Domestic Shipments	Stocks End of Month
January, 1928	55,378,000	1,117,000	39,712,000	17,696,000	149,725,000
February	49,158,000	1,337,000	38,036,000	25,705,000	136,479,000
March	50,170,000	1,767,000	40,147,000	28,747,000	119,522,000
Total Three Months	154,706,000	4,221,000	117,895,000	72,148,000	119,522,000
April	57,548,000	2,996,000	34,122,000	36,235,000	109,709,000
May	51,072,000	1,855,000	34,826,000	24,171,000	103,639,000
June	50,792,000	1,715,000	33,594,000	30,563,000	91,989,000
July	45,273,000	2,226,000	35,290,000	19,722,000	84,476,000
August	54,429,000	2,793,000	31,446,000	30,630,000	79,622,000
September	50,428,000	1,880,000	26,396,000	20,117,000	85,417,000
October	54,546,000	1,930,000	26,281,000	22,798,000	92,814,000
November	56,665,000	2,994,000	25,170,000	23,354,000	103,949,000
December	54,685,000	2,138,000	26,603,000	23,825,000	110,344,000
1928 Total	630,144,000	24,748,000	391,623,000	303,563,000	110,344,000
January, 1929	58,885,000	2,982,000	28,065,000	20,625,000	123,521,000
February	50,027,000	3,120,000	25,359,000	11,256,000	140,053,000
March	56,372,000	2,575,000	22,127,000	18,469,000	158,404,000
Total Three Months	165,284,000	8,677,000	75,551,000	50,350,000	158,404,000
Change This Year Over Like Period Last Year	+10,578,000	+4,456,000	—42,344,000	—21,798,000	+38,882,000
Per Cent	+6.84	+105.57	—35.92	—30.21	+32.53

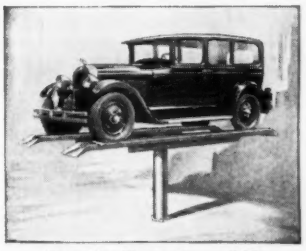
The tables on this page are with the Bureau of Mines report beginning on page 108

Coke, Asphalt, Miscellaneous Products

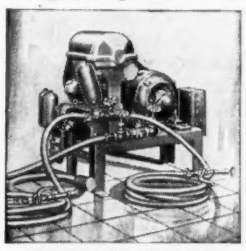
	Coke Output (Tons)	Coke Stocks (Tons)	Asphalt Output (Tons)	Asphalt Stocks (Tons)	Miscel. Products Output (Bbls.)	Miscel. Products Stocks (Bbls.)	Unfin. Oil Output (Bbls.)	Unfin. Oil Stocks (Bbls.)	Losses (Bbls.)	
January, 1928	103,200	331,300	202,000	219,000	613,000	1,183,000	2,293,000	36,762,000	2,142,000	January, 1928
February	100,100	335,100	207,000	233,900	633,000	1,297,000	2,199,000	37,282,000	1,976,000	February
March	107,200	352,400	265,200	269,800	659,000	1,527,000	2,282,000	37,128,000	2,268,000	March
April	109,400	342,100	273,800	273,700	656,000	1,601,000	2,478,000	38,215,000	2,222,000	April
May	118,400	348,300	330,700	262,200	879,000	1,392,000	2,792,000	38,762,000	2,398,000	May
June	118,100	343,700	331,600	270,800	892,000	1,130,000	2,325,000	38,380,000	2,578,000	June
July	127,000	384,900	330,800	247,200	938,000	1,200,000	2,787,000	40,657,000	2,820,000	July
August	136,100	402,100	316,400	225,500	991,000	857,000	2,530,000	39,596,000	2,660,000	August
September	119,100	402,200	305,600	202,900	873,000	748,000	2,226,000	39,732,000	2,644,000	September
October	125,000	404,400	319,800	209,900	867,000	723,000	1,954,000	38,452,000	2,657,000	October
November	131,000	418,800	244,400	228,000	723,000	726,000	2,838,000	38,114,000	2,388,000	November
December	132,000	436,900	169,800	235,500	677,000	635,000	3,166,000	38,601,000	2,275,000	December
January, 1929	137,900	403,800	188,400	229,100	661,000	653,000	2,513,000	38,264,000	2,542,000	January, 1929
February	126,700	388,100	208,200	235,600	617,000	652,000	2,273,000	38,170,000	2,059,000	February
March	129,400	402,400	227,500	250,100	738,000	691,000	2,873,000	38,471,000	2,602,000	March

1854 CURTIS 1929
75th Anniversary Line

Curtis Rotating Lift increases your profits because it [1] attracts customers, [2] cuts time-cost. Inspecting, lubricating and repairing done in half the time. Lets the customer see the work. This is the *safe* lift for you and for the car. Lift always held in position by positive **oil lock. Flush stuffing box design;** no pits or recesses. Roll-on or free wheel type.



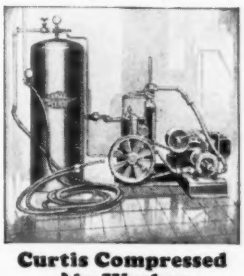
Curtis Rotating Lift



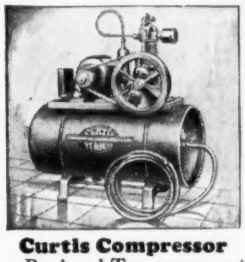
Curtis Hydraulic Car Washer

Curtis Hydraulic Car Washer—A low-priced self-contained outfit. One and two gun sizes. New slow speed **pump, fully enclosed and self-oiling,** specially designed by Curtis for car-wash service. Flooded and direct self-oiling systems. Special alloy-steel rust-resisting double-heat-treated nozzle discs. Automatic pressure governor. This car washer is the result of 75 years manufacturing experience, of which 32 years have been devoted to pneumatic engineering.

Curtis Compressed Air Washer not only washes more cars cleaner than any other power washer, but renders a *complete* cleaning service. Operates cleaning attachments and pneumatic tools, furnishes air for tire inflation, etc. New features are: **Timken** equipped Curtis **duplex compressor;** more compact mounting; reduced weight. Curtis is the only manufacturer building both types of washer, therefore in a position to advise without prejudice.

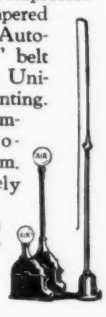


Curtis Compressed Air Washer



Curtis Compressor

Curtis Compressor has **Timken** tapered roller bearings. Automobile type "V" belt drive. All Sizes. Universal motor mounting. All-steel base. Improved "Centro-Ring" oiling system. Painted attractively in red and black. Curtis Air Stands —Reel and Tower types with or without water attachments.



St. Louis

Curtis Pneumatic Mchy. Co.,
1965 Kienlen Av., St. Louis—518-X Hudson Term., N. Y.
Please send information about .....
.....
Name.....
Address.....

R3

Letters to the Editor

Dear Editor:

I am only a small town jobber with a small business, but to me it means a lifetime investment and my only line of endeavor, and is representative of thousands of other oil men.

Who is to blame?

There is no question but that the retail oil business is in a serious condition.

There is no justifiable excuse for more than one-third of the retail outlets here today, but you see new ones going up by the hundreds over the country, curb pumps galore, and still seek to increase the number.

The large integrated companies are all trying to force their particular brands on to the market either through independent operators or through their own outlets, having no regard to the already overcrowded condition of the field, going in where there is no possible chance of getting sufficient gallonage to justify the investment, and especially is this true of the smaller towns and cities.

In our town of 2500 population there are now nine drive in service stations, four garages selling gasoline, oils, etc., and two more service stations under construction, and this in a county with only a little over eleven thousand population with four other towns in it all as well supplied accordingly.

And this is the situation over the entire country, just how long can such a situation last with this mad struggle for gallonage and is it any wonder there are price wars and disrupted markets when there is not enough business to go around?

In your April 13, 1927 issue, The Nebraska Iowa Oil Co. inferred that the legitimate jobber was entitled to a lower price than the car a month jobber. Now just what is a legitimate jobber? Webster says, legitimate means lawful, lawfully, begotten, genuine, therefore size does not enter in.

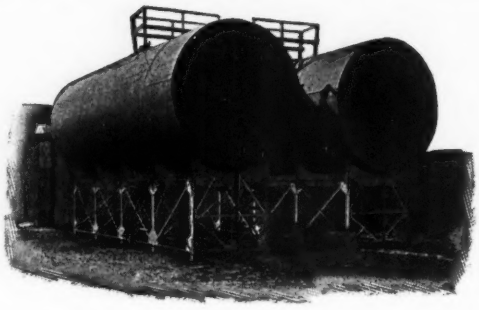
But the jobber who buys in sufficient volume does buy for less than the small jobber.

I think Mr. H. F. Stoke in his letter of the same issue has given some of the reasons for the present unsound condition of the retail oil industry, such as free equipment, various systems of rebates, renting the premises, etc.

The legitimate jobber of a car a month has not the capital to meet these practices, and garages, grocers, poultry dealers, cream stations, and others cut the prices for advertising purposes, the politician who favors muny stations, selling at cost, large firms who sell to their employees at

Complete Market Station Equipment

Columbian Equipment comprises practically everything needed for the bulk station.



Welded Storage Tanks

Bolted Tanks up to 10,000 barrels and larger

"Readyformed" All-metal Buildings for warehouse, office and filling station

Welded Buckets and Drums

Welded Carrying Cans

Measuring Tanks

Underground Tanks

Pumps

Pressure Tanks

Faucets and Hose, and

The famous Columbian line of Partition Mounted, 3-Point Supported Welded Truck Tanks and Trailer Tanks from the smallest to the very largest capacities.

Write for Oil Equipment Price List showing full line of equipment

COLUMBIAN STEEL TANK COMPANY

EST'D 1894 TANKS FOR THE WORLD

1405-1625 WEST 12TH STREET KANSAS CITY, MISSOURI

cost, bus and truck lines who buy at reduced prices, all these help to reduce the gallonage of the small legitimate jobber, and who can blame him if he sets a price that will help him to hold a reasonable volume, keep his men and trucks busy, and the balance on the right side of the ledger.

A good many refiners and brokers will sell anyone who can buy in car load lots whether he be an ethical jobber or not, equipment concerns are scouring the country to place more equipment holding out glowing accounts of long profits to prospective buyers often knowing the field to be already oversold, what is to be the final outcome?

Each new retail outlet only adds to overhead of the whole industry, creates no new business, but takes his gallonage from an already established concern.

The large refiners have the solution of most of the ills in their own hands, if they will only use them, it does not need an agreement with all the other refiners to cut off a jobber who is a confirmed price distributor, or to be sold up when some poultry buyer wants to use petroleum products to advertise the poultry business and so down the line.

Unless some radical changes are made in the marketing end, unless the automobile manufacturers and the oil industry as a whole join hands and put up a determined fight on the constantly increasing taxes imposed by government and the excessive freight rates charged on these commodities, the goose that lays the golden egg is likely to be slaughtered.

There is room for both integrated and independent oil men and each could be benefited by the other. But it will not come under the present system of doing business.

Overproduction of finished products crowded on to the market with long margins will always bring on price wars, and unless some radical reforms are brought about I see no hope for any long continued term of reasonable prices and profits.

Just why the jobber of petroleum products should be singled out to sell his wares at reduced prices, and without a reasonable margin of profit is beyond my comprehension, no other merchant is expected to do so, and if you should be bold enough to ask for a price reduction on his merchandise you would be very firmly informed it was not being done.

F. R. Linderman,
Central City, Neb.

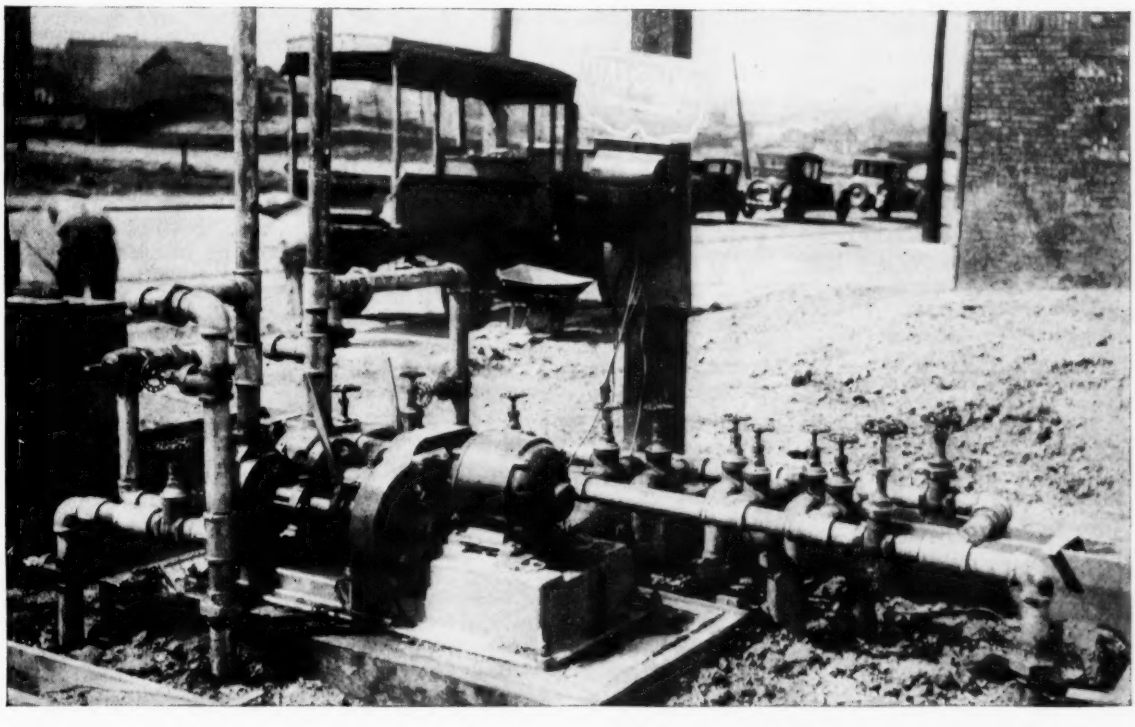
Air mail during April weighed 510,725 pounds, a daily average of 17,024 pounds, compared with 523,414 pounds in March, a daily average of 16,884 pounds. The increase in daily average indicates actual increase during April, although the total for the month is less, due to April being a 30-day month, compared with 31 days in March.

VIKING PUMPS

Will Handle 1,050 Gallons Per Minute

With ordinary oil any Viking 2-inch pump will empty an 8,000 gallon tank car in 1 hr. 30 min. Here is shown a tank station under construction with a Viking Twin already installed. Vikings can be had in series in any number from two to six pumps, inclusive. They are controlled by individual friction clutches—any one pump can be operated by itself, any combination can be operated or all operated in unison—each pump handling a different kind or grade of oil! Viking Pumps are of different sizes, different capacities, —adapted to the use of different kinds of power. They are the simplest, most durable, most dependable pump used in the oil industry! More than 150,000 in use! Only two moving parts—no valves—no springs—no leaks. Positive suction—even discharge. Special circular of particular interest to oil men sent FREE. Write for it today!

Viking Pump Company, Cedar Falls, Ia. *Walkerville, Ontario, Can.*



An Opportunity for Jobbers To Help Greasing Sales

By Ralph R. Matthews*

THOSE jobbers who have watched the advertising of the Ford Motor Co. within recent months have noted the following very significant paragraphs:

"The lubrication of the chassis is also important. It has been made simple and easy in the new Ford through the high pressure grease gun system. To insure best performance, *the chassis should be lubricated every* 500 *MILES.*

"Every 2000 miles the distributor cams should be cleaned and given a light film of vaseline. (1) *At* 5000 *MILES* the lubricant in the differential and transmission should be *flushed* with kerosene and *new lubricant added.*

"The oiling and *greasing* of an automobile is so important and means so much to economical, satisfactory performance that *it ought not be neglected or carelessly done.*"

Have oil jobbers grasped the significance of the above advertising? Have they noted the specific mileage figures of 500 and 2000? Have they analyzed the preceding paragraph?

Practically every oil jobber can remember when few motorists drained the crankcases of their automobiles, and refilled with fresh, clean motor oil. They *just added some oil.* Then came the campaign in which everyone joined to show the motorist how regular draining and refilling with fresh, clean oil meant better operation, less repair bills, less carbon cleaning and longer life for the automobile engine.

Now it is safe to say that few motorists neglect to drain the crankcase or have it done at more or less regular intervals. This was not accomplished in a day because of the necessary educational publicity which took time to fulfill its purpose. One thing that helped though, was the united effort behind the movement. Everyone who had motor oil to sell assisted, and it was not with selfish motives only, since a real service and assistance was being given to the automobile owner.

Now the same opportunity is offered with automobile greasing and oiling. There is no good reason why the automobile should not be greased when the crankcase is drained, thus those with greasing facilities should link the two together. Keep talking the 500 mile interval. Check up with those customers who have learned the advantage of regular greasing, and get a letter from them. It should prove of value in selling others the idea. Big companies, little companies, big oil jobbers, small oil jobbers, and individual service station operators should put their concerted effort behind word of mouth advertising of the value of regular greasing.

Here are a few talking points on the value of regular chassis lubrication:

1. Prevents the squeaks which tend each day to frazzle our nerves. Pleasanter driving.

2. Prevents frozen shackle bolts, which might eventually wear enough to throw the car out of alignment.

3. Saves the universal joint: that important connecting link between power and traction.

4. Keeps the steering gear ready to respond perfectly to a touch of the hand.

5. Keeps the fan turning without consuming power that should go to propulsion.

6. Makes every wheel ready to respond to movement with a minimum of roller bearing friction.

7. Slows down depreciation and puts off that day when the automobile will pass through the gates of a junk yard.

It is probably safe to make the assertion that at least 75 per cent of the automobiles now in operation have never had the differential or transmission drained and cleaned.

WITH the best gear lubricant made there is certain to be a little wear of the teeth. Naturally with a poor lubricant the wear will be greater. As was shown in the NATIONAL PETROLEUM NEWS of January 30, 1928, the presence of pieces of metal in the average gear lubricant can be proven by testing the drainings with a large horseshoe magnet. Metal particles in the gear lubricant mean that the gears will be worn and eventually differential or transmission trouble will develop.

The Ford Motor Co. has recognized this by setting a definite mileage figure when the lubricant should be drained, the gears and housings cleaned and refilled with a fresh, good quality lubricant. They do not want to have *some added* to bring the level up, but they want the contaminated lubricant with its associated abrasive material entirely removed. This feature is especially important for salesmen who make their territories in autos or others who drive many miles each month.

The figure of 5000 miles for draining, cleaning and refilling the differential and transmission means, for the average automobile, in the spring and fall, since the yearly mileage will generally not be more than 10,000 miles unless the auto is used for business or touring. These seasons have the advantage also that a lighter bodied lubricant should be used in winter to insure ease of shifting and the proper lubrication of the gears during real cold weather.

In other words, change in the fall to a winter gear compound and in the spring clean and change to a summer gear compound. Lubrication and automotive engineers have not yet been able to provide a gear lubricant which is absolutely satisfactory for gear lubrication where severe winter weather is experienced, and also entirely meets summer's needs.

THUS oil jobbers have at least two excellent arguments for urging the customer to have the transmission and differential cleaned and refilled with fresh lubricant at regular intervals. 1. The lubricant becomes contaminated with fine metal particles. 2. For best lubrication of the gears the lubricant suitable for the season should be used. The first point can be demonstrated to the skeptical with the horseshoe magnet test.

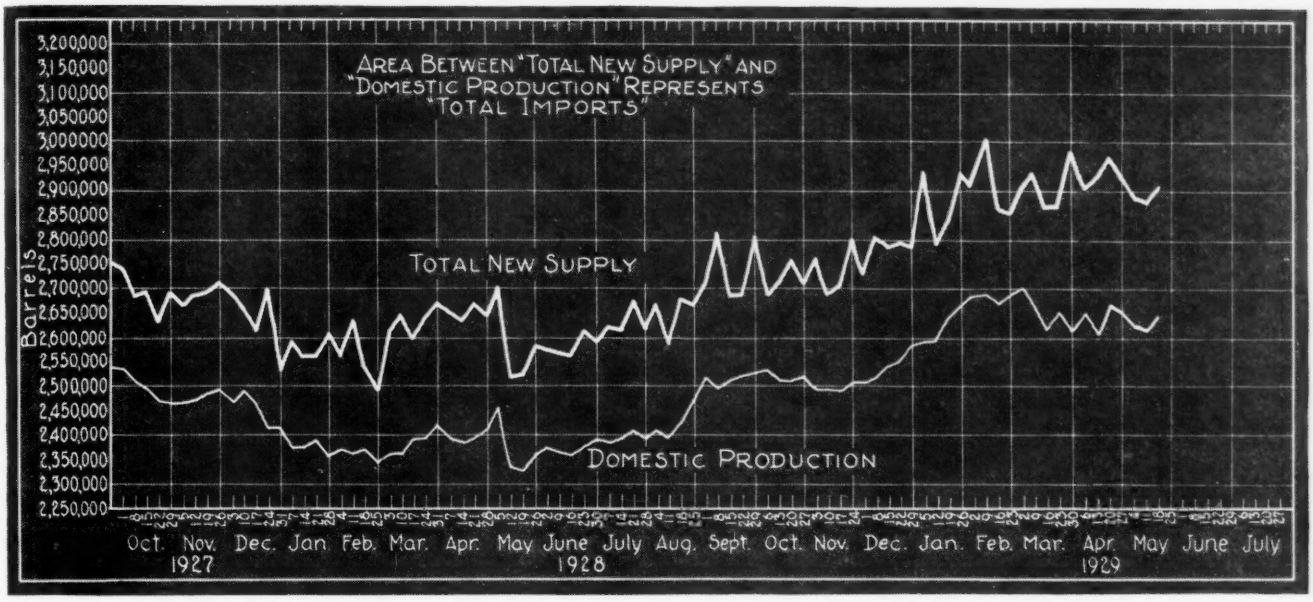
In the last paragraph quoted above from the advertisement of the Ford Motor Co., the jobber should be particularly concerned with that portion which reads: "it ought not be neglected or carelessly done." He should make it his business to point out to everyone in the locality he is serving the advantages of regular oiling and greasing and serious consequences of neglect.

As a general rule the local oil jobber has been in business for quite a few years and is a respected citizen whose business dealings have been above reproach. In better words, he has the confidence of his fellow citizens. He has specialized in the sale of gasoline and oil, and the greasing and oiling of automobiles. He should know how to do the best possible work of this type. Therefore, the oil jobber should let it be known that he is in a position to turn out first class greasing and oiling; that his work is very carefully done. He is a specialist.

More motorists are being converted everyday to regular greasing and oiling. A convert a day may keep the sheriff away, so all those with greasing facilities should help spread the propaganda.

*Vice-president Battenfeld Grease & Oil Co.

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	May 18	May 11
Production east of Rockies	1,878,350	1,865,950
Increase		12,400
Total production in U. S.	2,643,550	2,624,750
Increase		18,800
Crude oil imports	278,571	246,571
Increase		32,000
Total crude supply	2,922,121	2,871,321
Increase		50,800

OKLAHOMA

	May 18	May 11
Allen Dome	24,800	24,800
Blackwell	3,900	3,900
Bowlegs	35,650	33,600
Braman	3,600	3,400
Bristow-Slick	18,350	19,650
Burbank	20,550	20,750
Cromwell	8,150	7,950
Cushing	20,200	20,600
Davenport	1,500	1,500
Duncan District	6,600	6,400
Earlsboro	60,100	61,600
Fox	1,450	1,500
Garber	5,650	5,450
Graham	4,350	4,350
Healdton	12,900	13,000
Hewitt	8,300	8,100
Hubbard	1,950	2,000
Little River	74,650	75,950
Logan County	12,000	11,000
Maud	26,600	27,150
Mission	38,350	37,300
North Okmulgee	13,650	13,650
Oklahoma City	2,950	2,950
Osage (outside Burbank)	24,850	24,800
Papoose	3,350	3,350
Pearson	2,400	2,200
St. Louis	91,800	95,500
Scholem-Alechem	13,000	12,800
Searight	12,350	11,800
Seminole	34,300	32,850
South Okmulgee	7,900	7,900
Thomas	950	800
Tonkawa	10,250	10,450
Wewoka	4,900	4,900
Yale-Jennings	6,950	7,050
Others	51,950	50,650
Total, Oklahoma	672,150	671,600
Increase		550

KANSAS

	May 18	May 11
Augusta-Fox-Bush	2,950	2,950
Churchill	6,650	6,800
El Dorado-Towanda	12,700	12,700
Florence-Covert	1,000	1,000
Greenwood County	20,200	20,100
Oxford	4,850	4,950
Peabody-Elbing	2,750	2,750
Rainbow Bend	1,050	1,000
Russell	3,250	3,300
Sedgwick County	30,250	30,000
Others	29,500	28,500
Total, Kansas	115,150	114,050
Increase		1,100

NORTH LOUISIANA

	May 18	May 11
Bellevue	600	650
Caddo, light	8,300	8,100
Caddo, heavy	3,150	3,250
Cotton Valley	2,700	2,800
De Soto and Red River	3,800	3,850
Elm Grove	600	600
Haynesville	5,300	5,350
Homer	4,200	4,000
Pleasant Hill	500	500
Urania	5,950	6,050
Others	250	200
Total, North Louisiana	35,350	35,350

ARKANSAS

	May 18	May 11
Champagnolle	8,200	8,100
El Dorado	4,700	4,650
Lisbon	1,350	1,300
Nevada	1,050	1,050
Smackover, light	6,150	6,200
Smackover, heavy	48,600	48,850
Stephens	1,050	1,000
Others	100	100
Total, Arkansas	71,200	71,250
Decrease		50

TEXAS (Outside Gulf Coast)

Panhandle District

	May 18	May 11
Carson County	6,850	6,350
Gray County	27,900	24,350
Hutchinson County	24,800	25,150
Wheeler County	600	800
Others	2,150	2,800
Total, Panhandle Texas	62,300	59,450
Increase		2,850

North Texas

	May 18	May 11
Archer County	16,500	16,250
Burkburnett	8,800	8,700
Electra	12,400	12,250
Iowa Park and K. M. A.	5,650	5,500
Montague-Cooke	13,450	13,300
Wilbarger	27,300	27,000
Others	700	500
Total, North Texas	84,800	83,500
Increase		1,300

West Central Texas

	May 18	May 11
Brown County	7,900	8,100
Callahan County	3,700	3,950
Coleman County	3,650	3,400
Eastland-Desdemona	6,250	6,100
Jack County	2,000	1,700
Palo Pinto County	400	400
Shackleford County	13,050	12,900
Stephens County	6,200	6,100
Throckmorton County	700	600
Young County	6,750	6,500
Others	700	700
Total, West Central Texas	51,300	50,450
Increase		850

West Texas

	May 18	May 11
Crane and Upton Counties	47,550	46,800
Crockett County	2,100	2,150
Howard County	43,600	44,100
Jones County	4,750	5,000
Mitchell and Scurry Counties	2,600	2,700
Pecos County	97,400	89,950
Reagan County	18,400	18,500
Winkler County	145,600	139,750
Others	1,900	2,000
Total, West Texas	363,900	350,950
Increase		12,950

East Central Texas

	May 18	May 11
Boggy Creek	2,800	2,600
Corsicana-Powell	8,150	7,900
Currie	450	500
Mexia	5,850	5,100
Nigger Creek	600	600
Richland	400	400
Wortham	1,150	950
Others	.....	.....
Total, East Central Texas	19,400	18,050

Southwest Texas

	May 18	May 11
Dale	550	550
Laredo District	11,750	11,650
Luling	11,950	11,800
Lytton Springs	1,000	1,000
Salt Flat	47,550	43,300
Somerset	1,750	1,650
Others	4,250	3,950
Total, Southwest Texas	78,800	73,900
Increase		4,900
Total, Texas (Outside Gulf Coast)	660,500	636,300
Increase		24,200

GULF COAST

Coastal Texas

	May 18	May 11
Barbers Hill	6,900	6,500
Batson	1,400	1,400
Big Creek	2,450	2,600
Blue Ridge	3,100	3,750
Boling	1,800	1,800
Damon Mound	700	700
Goose Creek	6,050	6,000
Hull	8,750	9,050
Humble	8,000	10,950
Orange County	2,950	2,900
Pierce Junction	19,700	20,800
Racoon Bend	4,650	4,100
Saratoga	850	900
Somerville	2,950	2,950
Sour Lake	2,700	2,750
South Liberty	6,900	7,500
Spindleton	27,750	28,750
Sugarland	11,150	11,500
West Columbia	6,400	6,300
Others	5,000	4,150
Total, Coastal Texas	130,150	135,350
Decrease		5,200

Coastal Louisiana

	May 18	May 11
East Hackberry	2,500	2,700
Edgerly	900	900
Evangeline	1,000	900
Lockport	3,500	3,800
Old Hackberry	2,900	3,300
Sorrento Dome	300	400
Sulphur Dome	2,400	2,000
Sweet Lake	500	400
Vinton	4,050	4,250
Others	700	700
Total, Coastal Louisiana	18,750	19,350
Decrease		600
Total, Gulf Coast	148,900	160,550
Decrease		11,650

ROCKY MOUNTAIN

Wyoming

	May 18	May 11
Big Muddy	2,400	2,400
Elk Basin	800	850
Grass Creek	2,300	2,150
Labarge	1,800	1,800
Lance Creek	300	300
Lost Soldier	3,300	3,300
Oregon Basin	2,800	2,800
Rock Creek	2,500	2,550
Salt Creek	30,000	30,450
Others	3,700	3,900
Total, Wyoming	49,900	50,500
Decrease		600

Montana

	May 18	May 11
Cat Creek	1,400	1,400
Pondera	3,050	2,950
Sunburst	6,500	6,500
Others	100	100
Total, Montana	11,050	10,950
Increase		100

Colorado

	May 18	May 11
Florence	950	1,100
Fort Collins	2,450	2,300
Moffat (Craig)	1,450	1,400
Others	2,600	1,750
Total, Colorado	7,450	6,550
Increase		900

New Mexico

	May 18	May 11
Artesia	900	900
Hogback	400	250
Rattlesnake	750	150
Others	400	400
Total, New Mexico	2,450	1,700
Increase		750
Total, Rocky Mountain	70,850	69,700
Increase		1,150

CALIFORNIA

	May 18	May 11
Dominguez	10,000	10,000
Elwood-Goleta	29,000	29,000
Huntington Beach	42,000	42,000
Inglewood	23,500	23,500
Kettleman Hills	3,500	3,500
Long Beach	177,000	177,000
Midway-Sunset	64,000	65,000
Rosecrans	6,200	6,800
Santa Fe Springs	167,000	170,000
Seal Beach	41,000	41,000
Torrance	13,000	13,000
Ventura Avenue	56,600	55,000
Others	123,000	123,000
Total, California	755,200	758,800
Decrease		3,600

EASTERN

	May 18	May 11
(Including Ill., Ind., Ky., O., W. Va., Pa., and N. Y.)	114,250	113,000
Increase		1,250

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended May 17 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended May 17
Plants Reporting....	12	29	25	15	12	93
Da. Av. Cap. (Bbls.)..	92,000	160,200	86,600	81,500	54,900	475,200
Da. Cracking Capacity	30,700	52,600	17,200	.....	22,700	123,200
Da. Av. Crude Runs..	70,244 + 1.4	106,116 — 12.9	62,970 + 5.9	58,616 + 8.9	66,767 + 11.0	364,713 + 0.04
Da. Av. Other Oils...	6,513 + 5.9	7,998 +141.9	3,126 +127.3	1,185 +1073.3	2,348 + 6.5	21,170 + 61.1
GASOLINE—Gallons						
Stocks, May 10.....	32,141,000	75,965,000	17,886,000	7,665,000	9,645,000	143,293,000
Prod. 5-10 to 5-17....	10,348,000 + 4.4	17,270,000 — 10.0	7,996,000 + 11.7	4,413,000 + 8.6	6,104,000 + 7.9	46,131,000 + 0.3
Ship. 5-10 to 5-17....	9,502,000 + 1.0	18,832,000 + 5.0	8,465,000 + 10.7	3,916,000 + 0.6	4,254,000 — 15.5	44,969,000 + 2.4
Stocks, May 17.....	32,987,000 + 2.6	74,394,000 — 2.1	17,417,000 — 2.6	8,162,000 + 6.5	11,495,000 + 19.2	144,455,000 + 0.8
Ratio Sales to Prod...	91.8%	109.0%	105.9%	88.7%	69.7%	97.5%
KEROSENE—Gallons						
Stocks, May 10.....	6,746,000	7,476,000	2,934,000	66,000	759,000	17,981,000
Prod. 5-10 to 5-17....	2,497,000 + 14.7	2,065,000 — 14.4	1,545,000 — 5.8	30,000 + 57.9	247,000 — 1.6	6,384,000 — 1.8
Ship. 5-10 to 5-17....	2,343,000 — 10.7	2,263,000 + 1.7	1,584,000 + 21.3	23,000 — 14.8	314,000 + 9.4	6,527,000 + 0.9
Stocks, May 17.....	6,900,000 + 2.3	7,278,000 — 2.6	2,895,000 — 1.3	73,000 + 10.6	692,000 — 8.8	17,838,000 — 0.8
Ratio Sales to Prod...	93.8%	109.6%	102.5%	76.7%	127.1%	102.2%
STOVE DISTILLATE—Gallons						
Stocks, May 10.....	1,403,000	3,146,000	583,000	358,000	92,000	5,582,000
Prod. 5-10 to 5-17....	221,000 — 16.6	478,000 + 11.9	183,000 — 33.2	120,000	137,000 — 4.2	1,139,000 — 7.3
Ship. 5-10 to 5-17....	231,000 — 13.2	595,000 + 42.0	548,000 +621.1	151,000 + 20.8	156,000 + 57.6	1,681,000 + 70.7
Stocks, May 17.....	1,393,000 — 0.7	3,029,000 — 3.7	218,000 — 62.6	327,000 — 8.7	73,000 — 20.7	5,040,000 — 9.7
Ratio Sales to Prod...	104.5%	124.5%	299.5%	125.8%	113.9%	147.6%
GAS OIL—Gallons						
Stocks, May 10.....	9,232,000	20,441,000	7,747,000	17,969,000	6,777,000	62,166,000
Prod. 5-10 to 5-17....	2,122,000 + 3.1	2,724,000 + 10.6	939,000 — 14.2	2,137,000 + 9.6	2,007,000 + 2.6	9,929,000 + 4.3
Ship. 5-10 to 5-17....	1,448,000 + 14.6	2,453,000 +591.0	1,871,000 +166.5	1,845,000 + 36.2	2,553,000 + 32.4	10,170,000 + 99.3
Stocks, May 17.....	9,906,000 + 7.3	20,712,000 + 1.3	6,815,000 — 12.0	18,261,000 + 1.6	6,231,000 — 8.1	61,925,000 — 0.4
Ratio Sales to Prod...	68.2%	90.1%	199.3%	86.3%	127.2%	102.4%
FUEL OIL—Gallons						
Stocks, May 10.....	12,791,000	52,784,000	40,955,000	32,873,000	24,878,000	164,281,000
Prod. 5-10 to 5-17....	5,843,000 + 5.1	8,380,000 + 12.3	7,942,000 + 16.6	8,901,000 + 9.2	10,021,000 + 26.5	41,087,000 +14.4
Ship. 5-10 to 5-17....	5,819,000 + 4.6	5,642,000 — 13.1	5,624,000 — 22.4	7,970,000 — 2.1	8,028,000 + 0.8	33,083,000 — 6.6
Stocks, May 17.....	12,815,000 + 0.2	55,522,000 + 5.2	43,273,000 + 5.7	33,804,000 + 2.8	26,871,000 + 8.0	172,285,000 + 4.9
Ratio Sales to Prod...	99.6%	67.3%	70.8%	89.5%	80.1%	81.0%

Gasoline Produced by Various Methods, Week Ended May 17

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	7,225,000	69.8	11,566,000	67.0	5,621,000	70.3	4,312,000	97.7	2,489,000	40.8	31,213,000	67.7
Cracked.....	2,909,000	28.1	4,972,000	28.8	1,781,000	22.3	.....	....	3,008,000	49.2	12,670,000	27.4
Natural	214,000	2.1	732,000	4.2	594,000	7.4	101,000	2.3	607,000	10.0	2,248,000	4.9
Total.....	10,348,000		17,270,000		7,996,000		4,413,000		6,104,000		46,131,000	

+ or — columns are % change over previous week.

Cracking Operations Increase in Mid-Continent

Staff Special—By Telegraph
TULSA, May 20

AN INCREASE in cracking operations in all fields was evidenced for the week ended May 17 by the weekly operations reports from 93 Mid-Continent refiners to NATIONAL PETROLEUM NEWS. This increase may be only temporary or it may be an indication that refiners have begun working up their crackable stocks in anticipation of the increased demand for gasoline during the summer months.

The increase in gasoline production by cracking in Kansas amounted to almost 4 per cent. Oklahoma refiners increased production in this manner over 2 per cent as did the North Texas refiners. The Louisiana-Arkansas refiners increased production of cracked gasoline by almost 4 per cent. The increase for the field as a whole was 2.2 per cent.

Crude runs were virtually un-

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended May 17. Change in stocks figured from April 19.

GASOLINE

	Gallons
Production	181,838,000
Shipments	180,187,000
Net change in stocks	+1,651,000
Ratio sales to production	99.1%

KEROSENE

	Gallons
Production	25,367,000
Shipments	23,857,000
Net change in stocks	+1,510,000
Ratio sales to production	94.0%

STOVE DISTILLATE

	Gallons
Production	4,462,000
Shipments	4,579,000
Net change in stocks	—117,000
Ratio sales to production	102.6%

GAS OIL

	Gallons
Production	42,742,000
Shipments	33,033,000
Net change in stocks	+9,709,000
Ratio sales to production	77.3%

FUEL OIL

	Gallons
Production	149,023,000
Shipments	138,245,000
Net change in stocks	+10,778,000
Ratio sales to production	92.8%

changed for the week. Charges of other oils were increased 800 barrels daily average with each district sharing in the increase.

Gasoline production increased 200,000 gallons while shipments increased 1,200,000 gallons for the week. Shipments totaled 44,969,000 gallons. Kansas shipments were up 1 per cent while production increased 4.4 per cent and stocks increased 2.6 per cent. Oklahoma refiners reduced production 10 per cent and enjoyed a shipment increase of 5 per cent causing a reduction in stocks of 2 per cent or 200,000 gallons. North Texas refiners also drew on stocks for approximately 400,000 gallons but the West Texas and Louisiana-Arkansas refiners increased gasoline stocks.

Kerosene distillate and gas oil stocks were reduced as a result of increased shipments and in the case of kerosene and distillates reduced production.

Kerosene production was reduced 100,000 gallons while shipments increased 80,000 gallons, causing a draft on stocks of 140,000 gallons. Oklahoma, North Texas and Louisiana-Arkansas refiners shared in the reduction, the other districts showing increases in stocks.

Distillate production was reduced 7.3 per cent, but shipments jumped 70.7 per cent or almost 700,000 gallons causing a reduction in stocks of 460,000 gallons. Each field experienced a reduction in stocks, Kansas reducing stocks despite a 13.2 per cent loss in shipments. North Texas increased shipments 62.1 per cent and the stocks reduction amounted to 62.6 per cent.

Gas oil shipments increased 9.3 per cent. This can be attributed in part to the transfer of gas oil at several refineries to charging stock for cracking units. This increase in shipments would tend to support the belief that cracking operations were materially increased the past week. Most of the draft on stocks occurred in North Texas and in Louisiana-Arkansas. Stocks were reduced for the field 200,000 gallons.

Another indication of increase in cracking operations was the increase in fuel oil production which amounted to 14.4 per cent or 5,000,000 gallons. Shipments dropped 6.6 per cent or 2,400,000 gallons causing an increase in stocks of approximately 8,000,000 gallons or 4.9 per cent. No field shipped more fuel oil than was produced during the week.

ELDORADO, Kan., May 18.—O. G. Jackson, who has been in the refinery office of the El Dorado Refining Co., has been promoted to position of purchasing agent for the company, according to an announcement by company officials. Mr. Jackson has been in the service of the company for the past four years.

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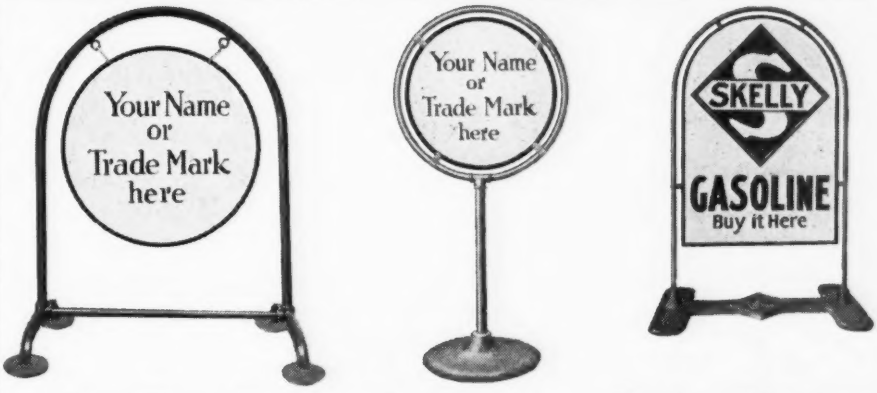

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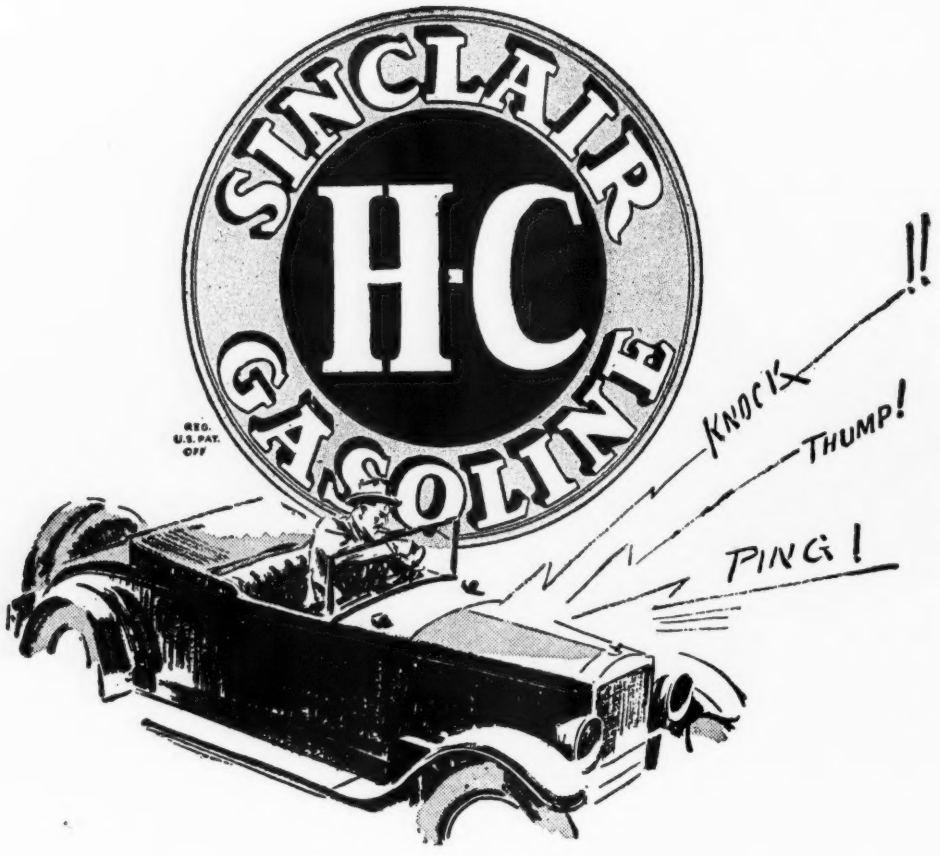

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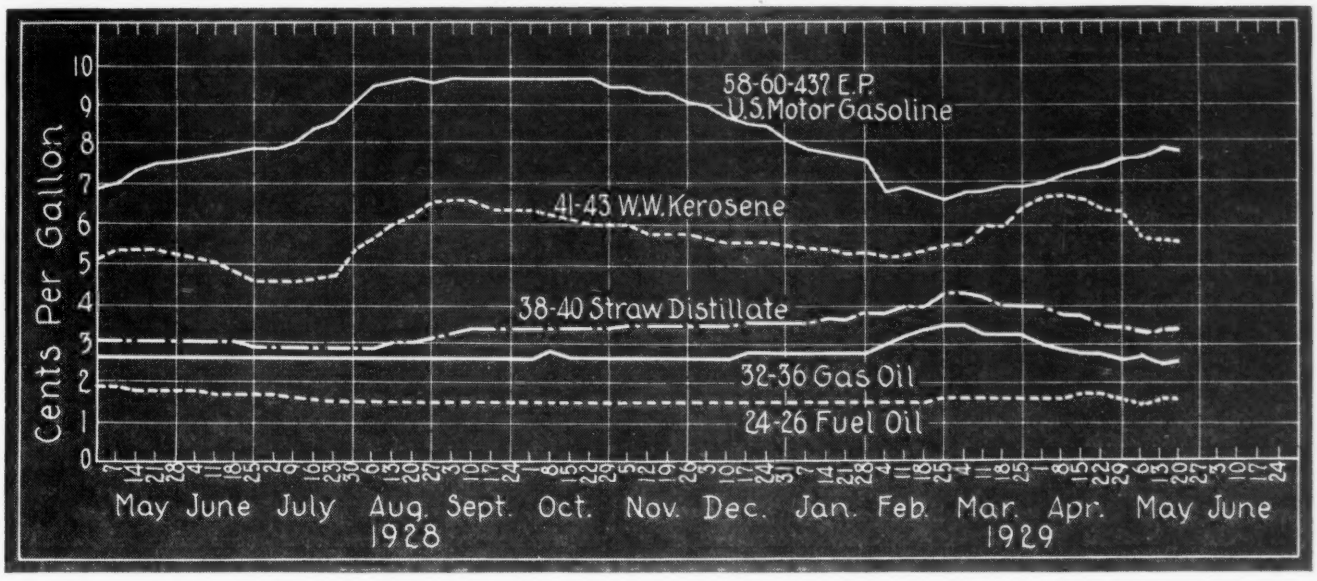
Refinery - Tank Wagon Markets

National Petroleum News

Current Prices of Principal Mid-Continent Refined Products



Prices shown are on Group 3 basis and extended to date shown in Refinery Market Tables Section of this issue

Tank Car Gasoline Prices Advance As S. O. Indiana Raises Markets

Staff Special
TULSA, May 18

GASOLINE prices in the Mid-Continent refinery market were advanced 0.125 to 0.25 cent a gallon late in the week ended May 18 on the strength of an advance of 1 cent a gallon in service station and tank wagon prices by the Standard Oil Co. of Indiana. The market was unsettled at the end of the week.

Natural gasoline buying was comparatively light all week and prices moved lower as more goods were offered on the spot market.

Kerosenes were given a little support early in the week because of an export purchase, but the flurry lasted only a day or two and that commodity was in only fair demand at close of business May 18.

Gas oils and distillates were comparatively inactive. Fuel oils were steady in price and demand.

Neutral oils and bright stocks were in good demand, but was inactive at slightly lower prices.

Gasolines

The Standard of Indiana's tank wagon and service station price advance announced May 17 to be effective May 18 caused a majority of Mid-Continent refiners to withdraw all previous quotations and to announce new quotations at 0.125 to 0.25 cent above the former ones, effective the date of the Standard's change. This made the new quotations for 58-60 U. S. Motor in Oklahoma 7.875 to 8 cents a gallon at a majority of refineries.

Jobbers naturally withdrew from the market following the announcement of the change and buying was comparatively light in most quarters the afternoon of May 17 and the half-day of May 18.

Several refiners indicated that on May 20 they would advance their prices another 0.125 to 0.25 cent a gallon, which would indicate that they were desirous of absorbing approximately half the advance in the retail prices.

It will take several days to show clearly the trend since jobbers will remain out of the market as long as they possibly can to see if the refiners can hold their new price levels.

Inclement weather in most middle western states had kept gasoline demand somewhat lighter the first of the week than many refiners had expected. Oklahoma refiners encountered a little competition from outside areas but, on the whole, movement had been fair enough to keep shipments about in line with production at most plants.

Several refiners reported their representatives had written that jobbers had their tanks full in anticipation of

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good gasoline business which the weather had curtailed and they accordingly had been kept from buying the last several days although they felt prices were on the upturn.

Exporters were not reported to be active, except one company was understood to have made some contracts in North Texas. The report was received late May 18 and the basis of the contracts and the amount of goods covered could not be ascertained.

The tight situation which existed in West Texas the last month or so apparently had eased somewhat since May 1. Contracts by one large buyer with several of the plants in that district expired about that time and there has been more gasoline available on the spot market.

Natural Gasolines

Grade BB was the most active of the natural gasolines. One company was reported to be in the market for 200 to 300 cars but only small lot buying was done before the close of business May 18. The buying was sufficient, however, to stabilize prices for grades BB and C.

Grade AA was comparatively inactive with most of the buying in small lots. Considerable short selling was attempted by brokers but apparently their numerous quotations defeated their purpose by keeping buying more scattered.

Grade AA price moved down to 6.75 cents before the end of the week. This would indicate that prices of all grades were drawing closer together. Normally during the summer prices of all grades are the same.

Kerosenes

Buying of kerosenes for export in north Texas caused prices to remain stationary in most districts. The reports of this buying caused a slight flurry in domestic buying but it was not sufficient to have any material effect on prices. The inclement weather continued to be the cloud over the kerosene market. Farmers in many states have been unable to do any amount of spring work and jobbers who had bought in anticipation of the farmer demand have had to wait patiently with full tanks for the buying.

The advance in gasoline prices may stimulate demand for kerosene somewhat since it spreads further apart the tank wagon prices of kerosene and gasoline. Before the advance there was such a small differential between the two prices in many Middle Western states that farmers did not bother to switch to kerosene for tractor operation. The higher gasoline prices will make it more to their advantage to burn kerosene.

Fuel Oils

Refiners reported demand for their fuel oils was steady with prices generally unchanged. The lower gravity oils continued to gain in demand as compared with the other grades. One or two refiners who made the higher gravity oils during the winter have swung to the lower grades for summer business.

Gas oils were comparatively inactive except for contract movement. West Texas refiners reported demand for their product at present was slow. The rains in Arkansas and Louisiana have curtailed gas oil demand in the rice fields.

Neutral Oils, Bright Stocks

The activity which had been noted in the neutral oils and bright stocks for several weeks continued unabated. Several refiners reported inquiries for bright stocks were for larger volumes than their production. Others said their storage tanks were virtually empty and they had had no opportunity to add any to storage.

Wax prices were fractionally lower. Demand was extremely light a majority of refiners reported. Prices for 124-126 white crude scale wax ranged from 3 to 3.25 cents a pound, f.o.b. refinery, Group 3.

Chicago Resale Market

Tank Wagon Raise Enlivens Gasoline

Staff Special
CHICAGO, May 18

THE Standard Oil Co. of Indiana put life into an otherwise dull and slack market by its announcement on May 17 of a 1-cent advance in tank wagon and service station gasoline prices effective May 18. Shortly after the announcement, most of the major refiners operating in this territory reported they would advance their spot price on gasolines 0.25 cent, to 8 cents on May 20.

Prior to this announcement the spot demand for U. S. Motor was light with a fair demand for contract goods. The inclement weather of the past week has kept motoring at about minimum with the resultant effect on gasoline demand. As soon as the refiners announced their intention of advancing the spot gasoline price,

quite a number of jobbers immediately ordered goods for shipment May 17 and 18 in order to get the benefit of the 7.75 cent price.

Despite the generally unfavorable weather the spot price for U. S. Motor gasoline gradually moved upward during the week ended May 18. The bulk of sales of Oklahoma U. S. Motor was at 7.625 to 7.75 cents the first half of the week, and by May 16 the bulk of sellers was asking 7.75 cents. A few refiners advanced their spot price to 8 cents on May 18, and the Sinclair Refining Co. advanced its spot U. S. Motor price to 8.25 cents. The opinion was general among the trade that if the weather next week is favorable to motoring the spot price of 58-60 U. S. Motor gasoline will be close to an 8.25 cent average by May 25.

Gasolines from refining centers outside Oklahoma were moved mostly at 7.50 to 7.75 cents until May 16 when the bulk of sales was at 7.625 to 7.75 cents, Group 3 freight basis. On May 18, nearly all sellers were getting 7.75 cents for their U. S. Motor gasoline, irrespective of point of origin. Occasional sales of distress goods were made as low as 7.375 cents during the week.

The strengthening market on U. S. Motor gasoline also reflected itself in the higher gravity gasolines and prices were up approximately 0.125 cent on May 18. Most sales of 60-62, 437 e.p. were at 7.875 to 8 cents on May 18 after moving at 7.75 to 7.875 cents previously. The 60-62, 400 e.p. moved at 7.75 to 8 cents until May 18 and closed then at 8 to 8.125 cents. Sales of 64-66, 375 e.p. gasoline were at 8.125 to 8.375 cents most of the week and closed May 18 at 8.25 to 8.375 cents.

Divergent reports were heard on the kerosene market. Some sellers reported a considerably better demand the past week, while others said they had received only a small number of inquiries. Two refiners, who had been quoting 5.75 cents on 41-43 w.w. reported they would drop to 5.50 cents May 20 and two others, who had been quoting 5.50 cents said they would advance to 5.75 cents on May 20. The price range on 41-43 w.w. kerosene was generally unchanged over the week, most sellers getting 5.50 to 5.75 cents. Sales were also reported at 5.375 cents.

The market for fuel and furnace oils was quiet throughout the week. The cooler weather slightly increased the demand for burner oils in one or two quarters. Most sellers reported that industrial concerns were buying about their normal supplies of gas and fuel oils. Prices of distillates, gas and fuel oils were unchanged over those of week ended May 11, shown in the May 15 issue of the NATIONAL PETROLEUM NEWS.

Mostly fair weather in western portions while rain likely in eastern portions of Standard of Indiana territory in the early part of week beginning May 20. Temperatures below normal during this period. Mostly fair later in the week with temperatures rising to normal or above.

Crude Price Changes

DALLAS—On May 21 Magnolia Petroleum Co. announced that effective May 20 it had met the Prairie advance on Mid-Continent crude, in Oklahoma, Kansas and North Texas fields where it buys on a gravity basis, except in the Panhandle district. Magnolia's heavy oil prices differ from Prairie's, being from 5 to 15 cents lower on grades below 33 gravity.

Grades differing from the Prairie schedule are, as posted by the Magnolia: below 26, $0.70; 26-26.9, $0.75; 27-27.9, $0.85; 28-28.9, $0.90; 29-29.9, $0.95; 30-30.9, $1.05; 31-31.9, $1.15. Other grades are same as Prairie's.

This change by the Magnolia amounts to an advance of from 10 to 41 cents, smaller amounts on the heavy grades and higher amounts on lighter oils.

* * *

FINDLAY—On May 21 Ohio Oil Co. advanced these Central States crudes 15 cents: Wooster, Lima, Illinois, Princeton, Indiana and western Kentucky; Plymouth crude 10 cents.

New prices are: Wooster, $1.90; Lima, $1.80; Indiana, $1.57; Princeton and Illinois, $1.75; Plymouth, $1.28; and western Kentucky, $1.83.

Last previous change on Central States crude was a 13 to 15 cent advance on April 26, 1929.

* * *

CASPER—On May 20 Midwest Refining Co. advanced Salt Creek, Wyo. crude in amounts ranging from 17 to 27 cents, and posted a 5 cent differential in place of the 3 to 6 cent differential which has been in effect.

The minimum grade of 29-29.9 gravity of Salt Creek crude is $1.10 and maximum grade of 37 and above is $1.50. Intervening grades take same prices as those of Prairie on Mid-Continent crude.

* * *

CASPER—On May 21 Ohio Oil Co. advanced these Rocky Mountain crudes: Elk Basin and Grass Creek, 29 cents; Lance Creek, 30 cents; Rock Creek, 22 cents; Big Muddy, 15 cents; and Mule Creek 10 cents.

New prices are: Elk Basin and Grass Creek light, $1.65; Lance Creek, $1.68; Rock Creek $1.40; Big Muddy, $1.43; and Mule Creek $1.20.

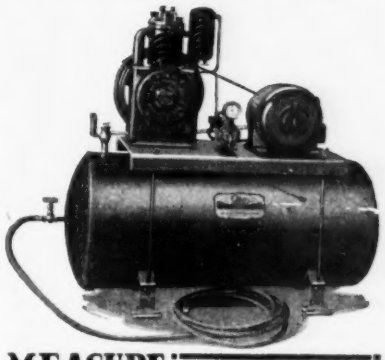
Last previous change on Rocky Mountain crudes was a 5 to 15 cent cut on Jan. 25, 1929.

HERE'S a 2 H. P. unit with a 60 gallon tank at the price usually charged for a ¾ H. P. two-stage unit. Will do all your tire inflating; is a splendid Paint Spray outfit; will operate one hydraulic hoist or your air operated gasoline pumps.

Sold to you by our jobbers for $215.

Cost no more to operate than many smaller units.

The Oro Model T-58



MEASURE AIR VALUE

Make the comparison we have made above. Measure price against service rendered and you will have a true sense of values.

Ask for Bulletin Now giving all details.

THE AU-TO COMPRESSOR CO.
201 Mulberry St. Wilmington, Ohio

'ORO AIR - - - - ALWAYS THERE'

A Proven Sales Executive Is Available

HERE is a man who, tho young in years, still under forty, has had wide experience in the Oil Industry.

He has been connected with a major oil company and more recently has owned and operated an oil marketing business of his own.

He has just sold this business, at a profit, to a large oil company and now seeks a connection where his experience in wholesale and retail marketing, management and finance can be applied.

He will make an excellent sales manager or supervisor of sales for a large independent oil company or, as general manager of a smaller organization, he will apply the principles and policies that made his own business a real success.

He is willing to go anywhere in the United States.

Complete information regarding this man can be obtained by writing to Box 340, Care of National Petroleum News.

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

Comparative Prices of 58-60 U. S. Motor Gasoline, Group 3 and Point of Origin, to Jobbers Only

In Effect May 20

	Price F.O.B. Group 3		*Price F.O.B. Point of Origin*		*If for Particular Destination*
Oklahoma	7.9037 (Wt. Avg.)		7.9037 (Wt. Avg.)		
Kansas	7.75-8.00				S. O. Neb & Ind. Ter., etc.
Kansas			8.0000 (Wt. Avg.)		Kansas only.
North Texas	7.625-7.75		7.50- 7.75		
West Texas	7.50-7.75		7.50-7.625		
Louisiana-Ark.	7.75				Mich., Ohio & Indiana.
Louisiana-Ark.			8.00		State or differential haul.
Indiana-Illinois	7.75-8.25		*		S. O. Ind. territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from E. Chicago, Ind., and Wood River, Ill., according to conditions and freight rates; no prices F.O.B. point of origin can be given.

Weighted Average Prices

OKLAHOMA

	May 20		May 13		May 6	
	No. of cars	Price	No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	61	7.9037	61	7.7602	98	7.6696
60-62 437 e. p. gasoline	19	8.0197	11	8.0000	12	7.8125
60-62 400 e. p. gasoline	4	8.2813	1	8.0000	1	8.1250
64-66 375 e. p. gasoline	6	8.4583	2	8.6250	1	8.6250

Above weighted averages reflect the effort on the part of majority of refiners to absorb a part of the recent advance in gasoline by Standard of Indiana. Quotations were sent out at 0.125 to 0.25 cent above prices prevailing prior to advance but were not effective before May 20 in most instances. Demand was comparatively good most of the week although refiners received reports from many division offices that inclement weather and floods curtailed gasoline consumption.

KANSAS

	May 20		May 13		May 6	
	No. of cars	Price	No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	26	8.0000	8	8.0781	13	7.9038

Kansas refiners advanced quotations fractionally following Standard Indiana advance and the new price levels are reflected in above weighted average. Demand was generally unchanged.

GASOLINE AND NAPHTHA

OKLAHOMA	Prices May 20	Prices May 13	Prices May 6
48-50 450 e.p. naphtha	7.375- 7.625	7.375- 7.50	7.125- 7.375
50-52 450 e.p. naphtha	7.375- 7.625	7.375- 7.50	7.125- 7.375
56-58 450 e.p. gasoline	7.375- 7.625	7.375- 7.50	7.25
58-60 450 e.p. gasoline	7.375- 7.625	7.375- 7.625	7.25 - 7.375
64-66 390 e.p. gasoline	8.25 - 8.50	8.75 - 9.00	8.00 - 8.25
68-70 350-360 e.p. gasoline	8.75 - 9.00	8.625- 8.75	8.625- 8.75

†Prices nominal ††Only one refiner quoting *Quotations only

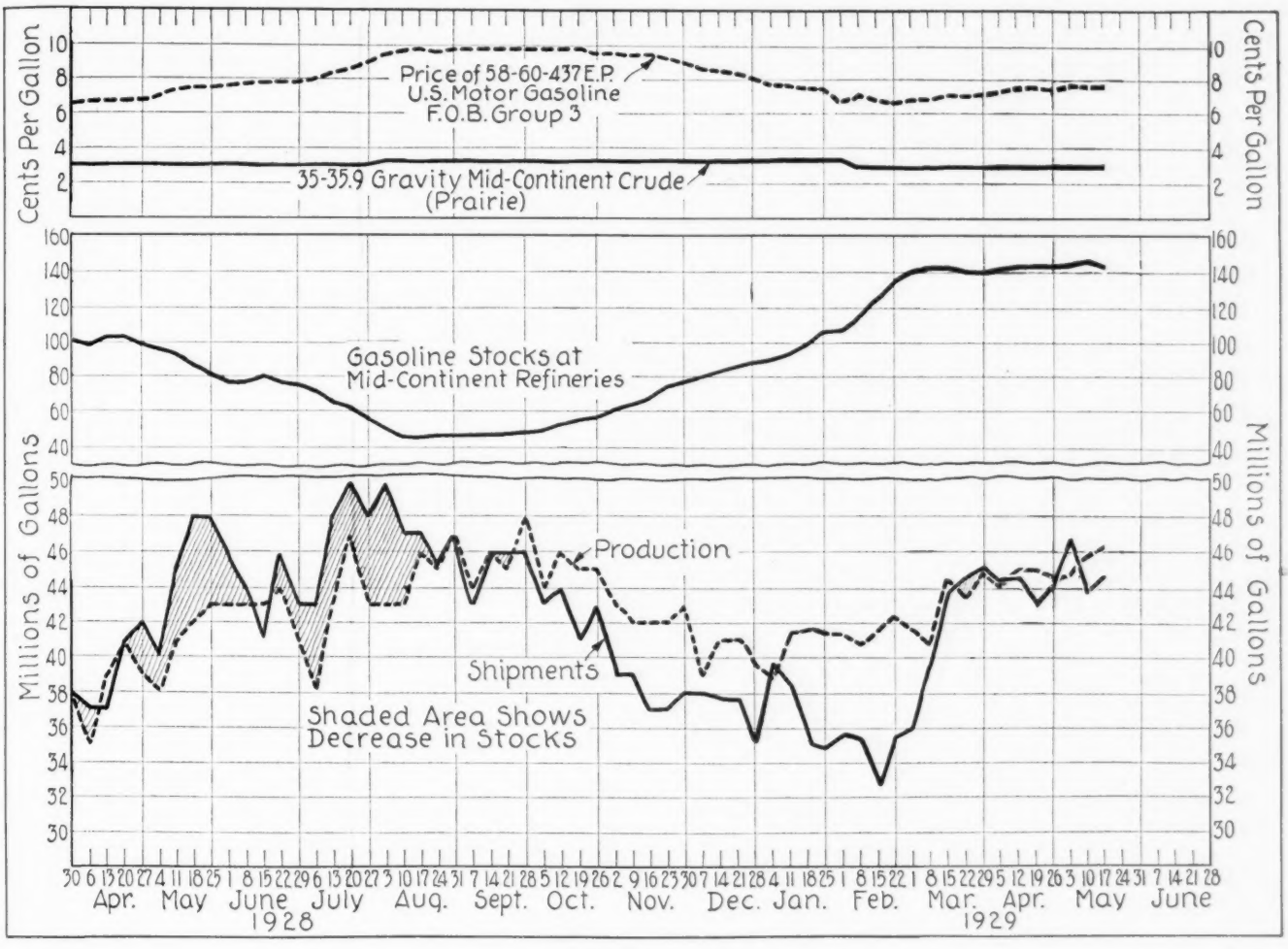
PENNSYLVANIA	Prices May 20	Prices May 13	Prices May 6
52-54 Naphtha	8.75 - 9.00	8.875- 9.00	8.75 - 9.00
54-56 Naphtha	8.75 - 9.00	9.00 - 9.50	8.75 - 9.50
58-60 U.S. Motor 437 e.p.	9.25 - 9.75	9.50 - 9.75	9.25 - 9.75
60-62 400-410 e.p. gasoline	9.75 -10.25	9.75 -10.25	9.50 -10.25
64-66 390 e.p. gasoline	10.50 -11.00	10.50 -11.00	10.25 -11.00
68-70 Str-run gas 350-360 e.p.	11.50 -12.00	11.50 -12.00	11.25 -12.00

(Continued on Page 130)

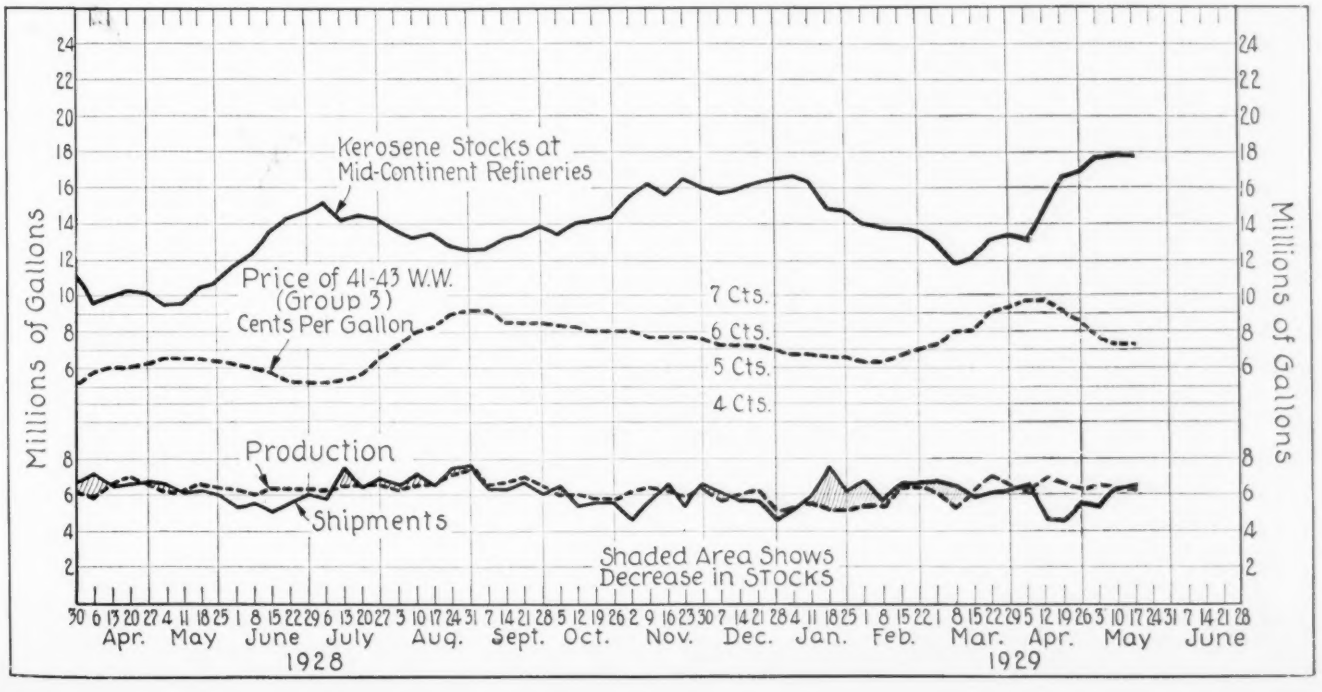
**Represents Both Sales and Quotations.

Barometer of Mid-Continent Refinery Market—Week Ending May 17

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Gasoline Stocks at Mid-Continent Refineries
Millions of Gallons
Production
Shipments
Shaded Area Shows Decrease in Stocks
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 122



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)
U. S. Motor Gasoline

	Prices May 20	Prices May 13	Prices May 6
Cincinnati	11.25	11.25	11.25
Cleveland, Toledo, Lima, within refinery switching area	11.25	11.25	11.25
Elsewhere in Ohio	11.50	11.50	11.50

KANSAS (F. O. B. refinery Kansas destination)

60-62 437 e.p. gasoline	8.00 – 8.125	8.00 – 8.125	7.75 – 8.00
60-62 400 e.p. gasoline	8.125– 8.375	8.125– 8.375	8.125– 8.375
64-66 375 e.p. gasoline	8.50 – 8.625	8.50 – 8.625	8.50 – 8.625

NORTH TEXAS

48-52 450 e.p. naphtha	7.125– 7.25	†7.125– 7.25	†7.00 – 7.125
56-58 450 e.p. gasoline	7.125– 7.25	7.125– 7.25	7.125
58-60 450 e.p. gasoline	7.125– 7.25	7.125– 7.25	7.125
58-60 U.S. Motor 437 e.p.	7.50 – 7.75	7.375– 7.50	7.50
60-62 400 e.p. gasoline	7.75 – 8.00	7.75	7.50 – 7.625
64-66 390 e.p. gasoline	8.00 – 8.125	7.75 – 8.00	7.625– 7.75
64-66 375 e.p. gasoline	8.00 – 8.25	8.00	7.875
68-70 350-360 e.p. gasoline	8.25 – 8.50	8.25 – 8.375	8.25 – 8.375

****WEST TEXAS (F.o.b.West Texas refinery, for unrestricted shipment)**

50-52 naphtha	7.25 – 7.50	7.00 – 7.25	7.00 – 7.25
56-58 437 e.p. gasoline	7.50	7.25 – 7.50	7.25 – 7.50
58-60 437 e.p. gasoline	7.50 – 7.625	7.375– 7.50	7.25 – 7.50

NORTH LOUISIANA (N. La., Ark., and Miss. destination)

58-60 U.S. Motor gasoline	8.00	8.00	8.00

ARKANSAS (Arkansas destination only)

58-60 450 e.p. gasoline	7.75 – 8.00	7.75	7.75
58-60 U.S. Motor 437 e.p.	8.00	8.00	8.00
61-63 390 e.p. gasoline	††8.75	††8.75	††8.75

‡CALIFORNIA

54-58 U.S. Motor 437 e.p.	7.25 –10.50	8.00 – 9.00	7.75 – 8.50
58-61 375-400 e.p. gasoline	8.25 –11.50	8.50 –10.50	8.50 –10.50
42-45 Eng. dis. 445-480 e.p.	7.50 – 9.00	8.00 – 9.00	8.00 – 9.00

‡3c tax to be added to California gasoline prices if used in state.

NATURAL GASOLINE

(Note: End point of all grades, not over 375 F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA

Grade AA, 80-87.9, 90% Recovery	6.75	7.25 – 7.50	7.75
Grade A, 72-79.9, 90% Recovery	6.75	7.25 – 7.50	7.75
Grade BB, 84-92, 85% Recovery	6.25	6.75 – 6.875	‡7.25 – 7.375
Grade B, 76-83.9, 85% Recovery	6.25	6.75 – 6.875	‡7.25 – 7.375
Grade C, 80-90, 78% Recovery	6.25	6.75 – 6.875	‡7.00 – 7.25

Offers to buy; no sales reported

NORTH TEXAS (F. O. B. Breckenridge)

Grade AA, 80-87.9, 90% Recovery	6.75	7.25 – 7.50	7.75
Grade A, 72-79.9, 90% Recovery	6.75	7.25 – 7.50	7.75
Grade BB, 84-92, 85% Recovery	6.25	6.75 – 6.875	‡7.25 – 7.375
Grade B, 76-83.9, 85% Recovery	6.25	6.75 – 6.875	‡7.25 – 7.375
Grade C, 80-90, 78% Recovery	6.25	6.75 – 6.875	‡7.00 – 7.25

Offers to buy; no sales reported.

NORTH LOUISIANA (F. O. B. Monroe District)

Grade AA	†6.875	†7.625	7.875
Grade BB	†6.375	†7.125	7.50
Grade C	†6.375	†7.125	7.375

CALIFORNIA

75-85, 375-390 e.p. blend	8.50 – 9.00	8.00 – 8.50	8.00 – 8.50

MOTOR FUEL BLENDS

OKLAHOMA

	Prices May 20	Prices May 13	Prices May 6
64-66 Blend 437 e.p.	7.375	No quotations	7.50

BURNING OILS

PENNSYLVANIA

45 w.w. kerosene	7.00 – 7.50	7.25 – 7.50	7.25 – 7.75
46 w.w. kerosene	7.375– 8.00	7.50 – 8.00	7.75 – 8.125
47 w.w. kerosene	7.875– 8.25	8.00 – 8.75	8.50 – 8.75
300 mineral seal	7.75	7.50 – 8.00	7.50 – 8.125

OKLAHOMA

41-43 w.w. kerosene	5.50 – 5.75	5.50 – 5.75	5.75 – 6.125
42-44 w.w. kerosene	6.00 – 6.25	6.00 – 6.25	6.25 – 6.50

KANSAS (F. O. B. refinery Kansas destination)

41-43 w.w. kerosene	6.00 – 6.25	6.00 – 6.25	6.50 – 6.75
42-44 w.w. kerosene	6.50	6.50	6.875– 7.00

NORTH TEXAS

40-42 w.w. kerosene	5.25	5.25	5.75
41-43 w.w. kerosene	5.25 – 5.50	5.25 – 5.50	5.75 – 6.00

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosene	6.50	6.50 – 6.75	7.00 – 7.25
42-44 w.w. kerosene	6.75	6.75	7.00 – 7.25

ARKANSAS (Arkansas destination only)

42-44 kerosene	6.75	6.75	7.00

CALIFORNIA

38-40 w.w. kerosene	5.00 – 6.00	5.25 – 6.00	5.25 – 6.25

NEUTRAL OIL

PENNSYLVANIA

Vis.	(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	29.00 –30.00	29.50 –30.00	29.50 –30.00
180 No. 3 Assoc. Filt.	25.00 –27.00	25.50 –28.00	25.50 –28.00
150 No. 3 Assoc. Filt.	21.00 –22.00	21.50 –23.00	21.50 –23.00
	(Non Viscous)		
34 Grav. 330-340 Flash	7.75 – 8.00	7.00 – 8.50	7.50 – 8.50

****OKLAHOMA**

Vis.	Color	(Viscosity at 100°F.)		
100	No. 2	5.50 – 6.00	5.50 – 6.00	5.50 – 6.00
150	No. 3	7.50 – 8.50	7.50 – 8.50	7.50 – 8.50
150	No. 4	6.50 – 7.50	6.50 – 7.50	6.50 – 7.50
180	No. 3	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
180	No. 4	8.75 – 9.75	8.75 – 9.75	8.75 – 9.75
180	No. 5	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
200	No. 3	9.50 –11.00	9.50 –11.00	9.50 –10.00
200	No. 4	9.00 –10.25	9.00 –10.25	10.00 –10.25
200	No. 5	8.75 – 9.50	8.75 – 9.50	9.50 –10.00
220	No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220	No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220	No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240	No. 3	13.00 –13.50	13.00 –13.50	13.00 –13.50
240	No. 4	12.00 –13.00	12.00 –13.00	12.00 –13.00
240	No. 5	11.00 –13.00	11.00 –13.00	11.00 –13.00
280	No. 3	14.00 –15.50	14.00 –15.50	14.00 –15.50
280	No. 4	13.00 –14.00	13.00 –14.00	13.00 –14.00
280	No. 5	12.00 –13.00	12.00 –13.00	12.00 –13.00
300	No. 5-6	16.00 –17.00	15.00 –17.00	15.00 –17.00

†Prices nominal ††Only one refiner quoting *Quotations only **Represents both sales and quotations ***Represents quotations and offers to buy

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL

Vis.	Color	Prices May 20	Prices May 13	Prices May 6
		(Viscosity at 100°F., pour test 0)		
100	No. 2 Pale	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
200	No. 3 Pale	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
300	No. 3 Pale	10.00 –10.50	10.00 –10.50	10.00 –10.50
500	No. 3½ Pale	12.00 –12.50	12.00 –12.50	12.00 –12.50
750	No. 4 Pale	13.00 –13.50	13.00 –13.50	13.00 –13.50
200	No. 5½ Red Oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300	No. 5½ Red Oil	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
500	No. 6 Red Oil	10.00 –10.50	10.00 –10.50	10.00 –10.50
750	No. 6 Red Oil	12.00 –12.50	12.00 –12.50	12.00 –12.50

CALIFORNIA

Vis.	Color		(Viscosity at 100°F.)	
100	No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200	No. 3	11.50	11.50	11.50
300	No. 3	13.00	13.00	13.00
450	No. 3	15.50	15.50	15.50
550	No. 3	16.50	16.50	16.50
600	No. 3	17.00	17.00	17.00
200	No. 5	11.00	11.00	11.00
300	No. 5	12.00	12.00	12.00
400	No. 5	14.00	14.00	14.00
500	No. 5	15.00	15.00	15.00
600	No. 5	16.00	16.00	16.00
700	No. 7	18.00	18.00	18.00

CYLINDER STOCKS

**OKLAHOMA

190-200 Vis. at 210° Brt. St.	35.00 –36.00	35.00 –36.00	34.00 –35.00
150-160 Vis at 210° Brt. St.	33.00 –34.50	33.00 –34.50	32.00 –34.50
600 E. St. 140-150 Vis.-210°	18.00 –20.00	18.00 –20.00	18.00 –20.00
600 St. Ref. Olive Green	14.00 –18.00	12.00 –14.00	10.50 –12.00
600 St. Ref. Dark Green	11.00 –13.00	11.00 –13.00	10.00 –11.00
Black Oil	5.00	5.00	5.00

PENNSYLVANIA (A. S. T. M. Tests)

600 Steam Refined, filterable	35.00 –37.00	36.00 –37.00	35.00 –37.00
650 Steam Refined	41.00 –42.00	42.00 –43.00	41.00 –43.00
600 Flash	42.00	45.00	45.00
625 Flash	No quotations	No quotations	No quotations
600 Warren E	37.00 –38.00	37.00 –38.00	37.00 –38.00
600 Oil City E	36.00 –37.00	36.00 –37.00	36.00 –37.00
600 D Filtered	40.00	41.00	41.00
Cold Test Stock, 40-50 p. p., 140-150 vis. at 210° 540-550 flash, No. 8 color	54.00 –58.00	54.00 –58.00	55.00 –57.00
40-50 p.p., 140-150 vis. at 210°, 540-550 flash, No. 6-6½ color diluted	54.00 –56.00	53.00 –56.00	53.00 –56.00

WAX

PENNSYLVANIA Per pound, New York

122-124 white crude scale, a. m. p.	3.25 – 3.50	3.25 – 3.50	3.25 – 3.625
124-126 white crude scale, a. m. p.	3.25	3.25 – 3.75	3.25 – 3.75

‡One seller quoting.

OKLAHOMA

**124-126 White Crude Scale, a. m. p.	3.00 – 3.25	3.375– 3.50	3.375– 3.50

CALIFORNIA

White crude scale, per pound, ton lots, a. m. p.	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

†Prices Nominal ††Only One Refiner Quoting *Quotations only **Represents both sales and quotations

FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

	Prices May 20	Prices May 13	Prices May 6
36-40 fuel oil	5.375– 5.625	5.375– 5.75	5.50 – 5.75
30-34 fuel oil	4.625– 4.875	4.75 – 5.00	4.75 – 5.00
28-32 fuel oil	4.625– 4.875	4.75 – 5.00	4.75 – 5.00

OKLAHOMA

38-40 straw distillate	†3.25 –†3.375	†3.375– 3.50	†3.375– 3.50
36-38 straw distillate	†3.125– 3.25	†3.25 – 3.375	3.25 – 3.375
32-36 gas oil, straw	2.50	2.50	2.625
32-36 dark gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
32-36 zero gas oil	2.50	2.50	2.625
28-30 fuel oil (in bbls.)	$0.85 – 0.90	$0.85 –$0.90	$0.90 – 0.95
28-30 zero fuel oil	$0.875– 0.95	.....	.....
26-28 fuel oil (in bbls.)	$0.65 – 0.725	$0.65 – 0.725	$0.725– 0.75
24-26 fuel oil (in bbls.)	$0.625– 0.675	$0.625– 0.675	$0.65 – 0.70
22-26 fuel oil (in bbls.)	$0.55 – 0.60	$0.55 – 0.60	$0.55 – 0.60
18-22 fuel oil (in bbls.)	$0.525– 0.575	$0.525– 0.575	$0.55 – 0.575
16-18 fuel oil (in bbls.)	$0.50 – 0.55	$0.50 – 0.55	$0.50 – 0.575
14-16 fuel oil (in bbls.)	$0.45 – 0.50	$0.45 – 0.50	$0.50 – 0.55

‡Zero cold test gas oil sells for 0.25 cent higher.

KANSAS (F. O. B. refinery Kansas destination)

38-40 straw distillate	3.50	3.50	3.50 – 3.625
36-38 straw distillate	3.375	3.375	3.50
32-36 gas oil	2.375– 2.50	2.375– 2.50	2.50 – 2.625
24-26 fuel oil	$0.70 – 0.75	$0.70 – 0.75	$0.70 – 0.75
18-22 fuel oil	$0.625– 0.70	$0.625– 0.70	$0.625– 0.70

NORTH TEXAS

38-40 straw distillate	3.25 – 3.375	3.50	3.75
32-36 gas oil, cracked	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
32-36 St. reduced gas oil	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
24-26 fuel oil (in bbls.)	$0.60 – 0.65	$0.60 – 0.65	$0.65 – 0.70
20-24 fuel oil	$0.625–$0.65	$0.65	$0.65 – 0.675

**WEST TEXAS (F.o.b. West Texas refinery, for unrestricted shipment)

34-38 gas oil	2.25 – 2.375	2.25 – 2.375	2.375
30-32 gas oil	1.875– 2.00	1.875– 2.00	2.00
18-22 fuel oil	$0.30	$0.30	$0.30 – 0.35

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	3.00	3.00	3.00
32-36 gas oil, straw	3.00	3.00	3.00
16-20 fuel oil (in bbls.)	$0.70	$0.70 – 0.75	$0.70 – 0.75

ARKANSAS (Arkansas destination only)

32-36 gas oil, straw	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
32-36 gas oil	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
28-30 gas oil	2.75	2.75	2.875

CALIFORNIA (F. O. B. San Joaquin Valley. At. San Francisco, 4c per bbl. more)

14-18 fuel oil (per bbl.)	$0.55 –$0.65	$0.55 –$0.65	$0.55 –$0.65
14-18 Bunker oil (per bbl.)	$0.70 –$0.80	0.70 – 0.80	$0.70 –$0.80
30-34 gas oil (per bbl.)	$0.90 –$1.05	$0.90 –$1.05	$0.90 –$1.05
27 Plus Diesel oil (per bbl.)	$0.90 –$1.00	$0.90 –$1.00	$0.90 –$1.00

PETROLATUMS

PENNSYLVANIA (In barrels, carload lots, f. o. b. refinery. In tank cars ½c to ¾c per pound less.) Two refiners quoting.

Snow White	8.50	8.50	8.50 †
Lily White	7.50 – 6.625	7.50 – 7.625	7.50 – 7.625
Cream White	6.50 – 6.625	6.50 – 6.625	6.50 – 6.625
Light Amber	3.625	3.625	3.625
Amber	3.375	3.375	3.375
Red	3.125	3.125	3.125

PETROLEUM COKE

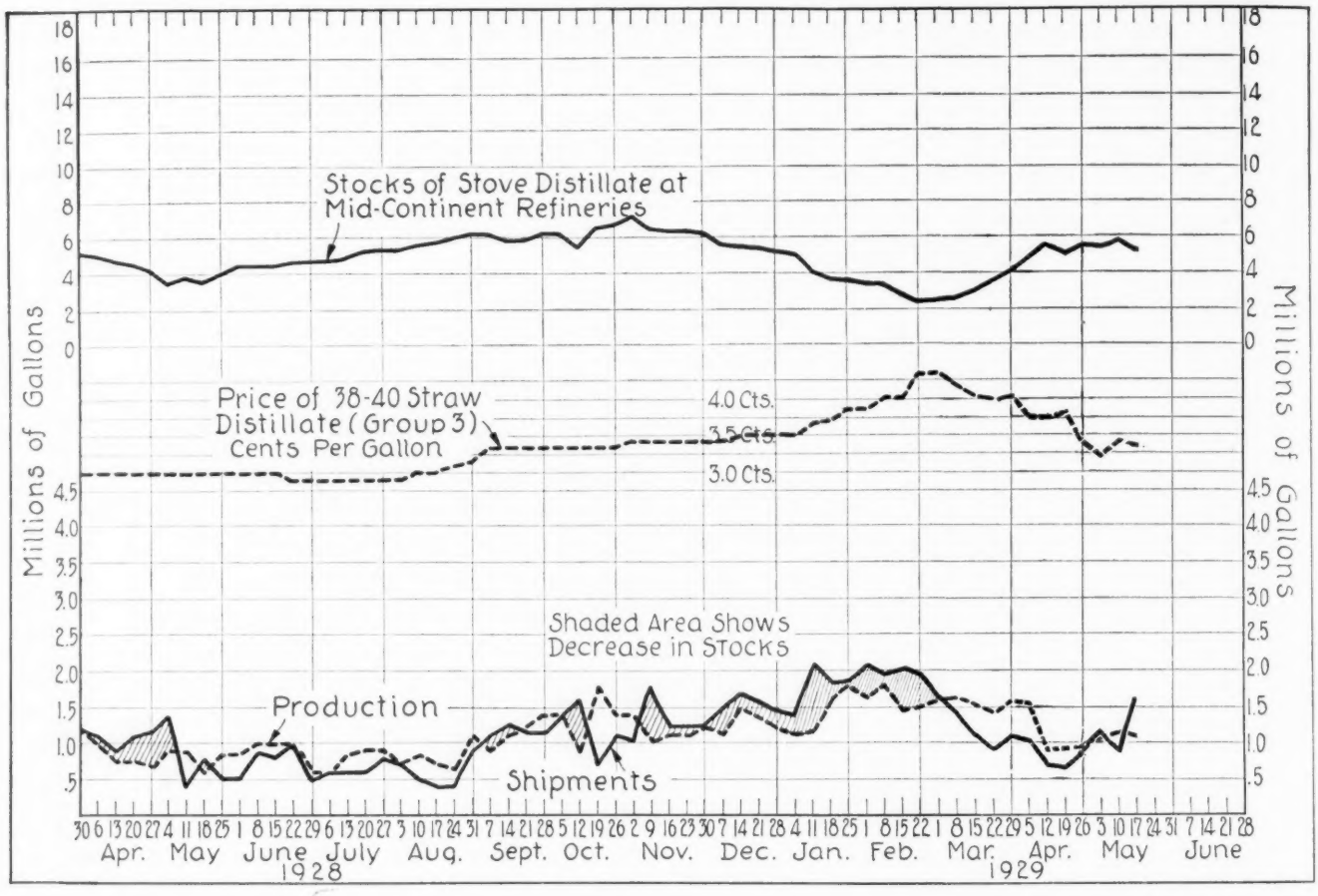
**OKLAHOMA

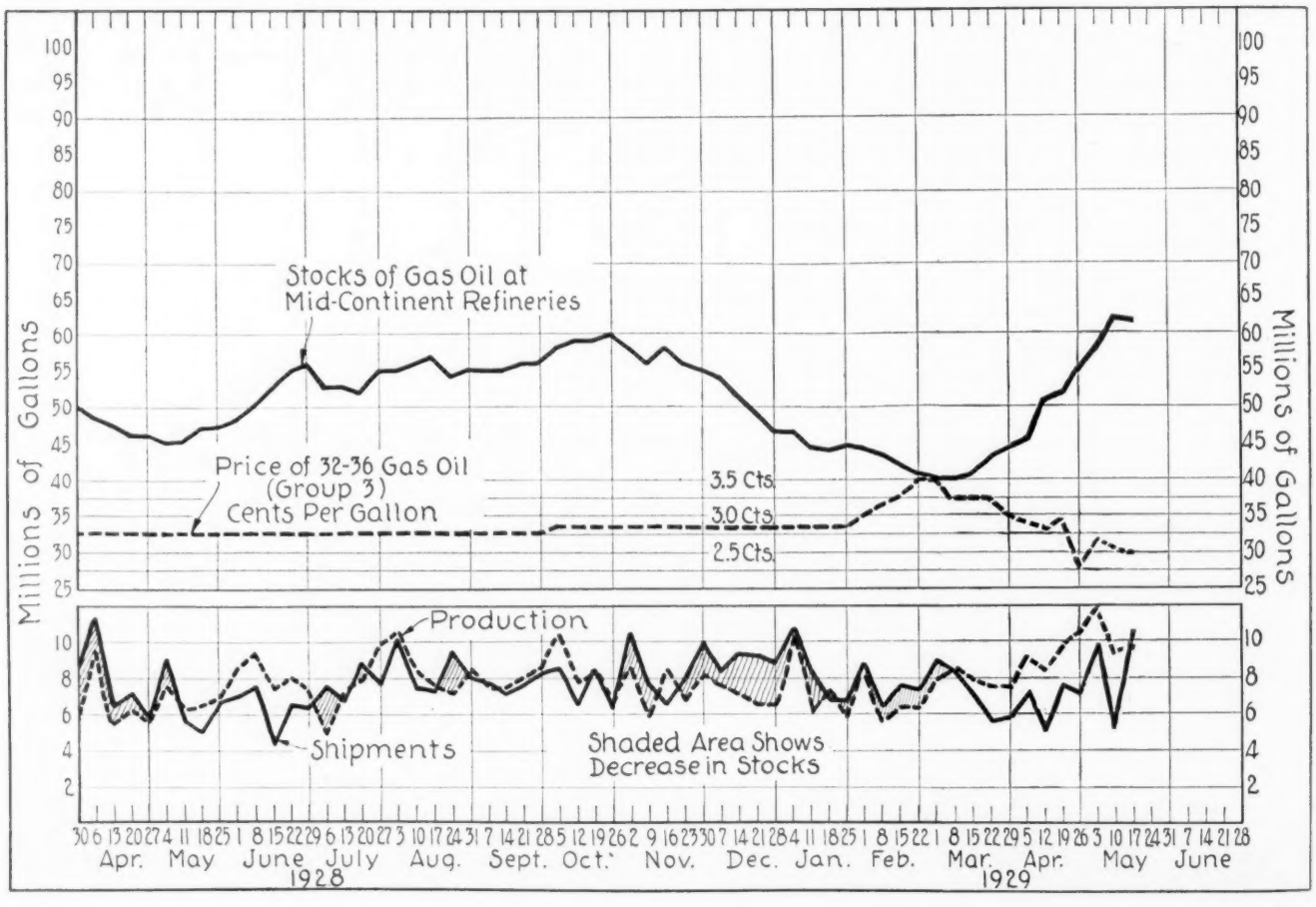
(Per ton in car lots)

Lump	$4.50 – 5.00	$4.50 –$5.00	$4.50 – 5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

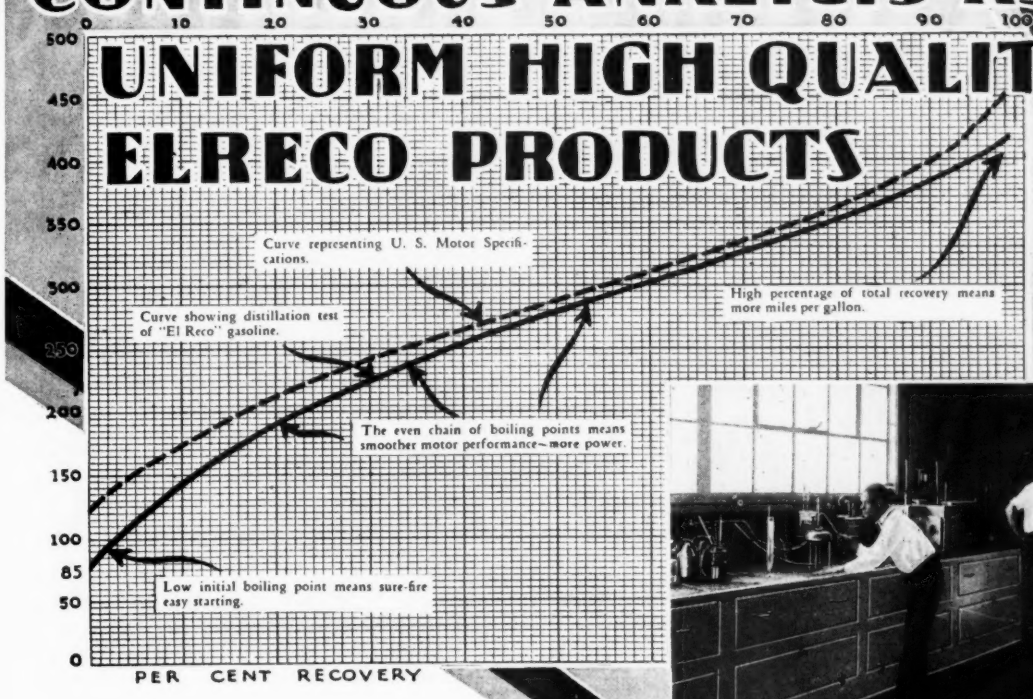
Barometer of Mid-Continent Refinery Market—Week Ending May 17

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Stocks of Stove Distillate at Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) Cents Per Gallon
4.0 Cts.
3.5 Cts.
3.0 Cts.
Shaded Area Shows Decrease in Stocks
Production
Shipments
Millions of Gallons
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929


Stocks of Gas Oil at Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) Cents Per Gallon
3.5 Cts.
3.0 Cts.
2.5 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
Millions of Gallons
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

CONTINUOUS ANALYSIS ASSURES UNIFORM HIGH QUALITY OF ELRECO PRODUCTS



THE distillation chart above relates a graphic story of great importance to every jobber.

Compare the solid black line of a distillation test of "El Reco" gasoline with the dotted line representing U. S. Motor Specifications—the accepted standard. Note that the initial boiling point of "El Reco" is considerably lower—which means greater volatility at low temperature . . . . *quick and easy starting.* Note also how its chain of boiling points is much more even and lower at all temperatures—meaning efficient carburetion and complete combustion . . . . *a smother running motor with more pep and power.* Its high percentage of total recovery means more miles per gallon. A gasoline far better in every respect than the ordinary accepted standard.

In our laboratories, chemists make scores of tests every day of samples taken continuously from various parts of our refinery. Every shipment is sampled, and authority must come from the laboratory before the car can leave the plant. The amount of chemical analysis we do is indeed unusual—but is required to assure the uniform quality found in "El Roco" products.

The superior performance of "El Reco" will be noticed by your customers—and will mean more profit to you. Phone or wire for a trial car today.

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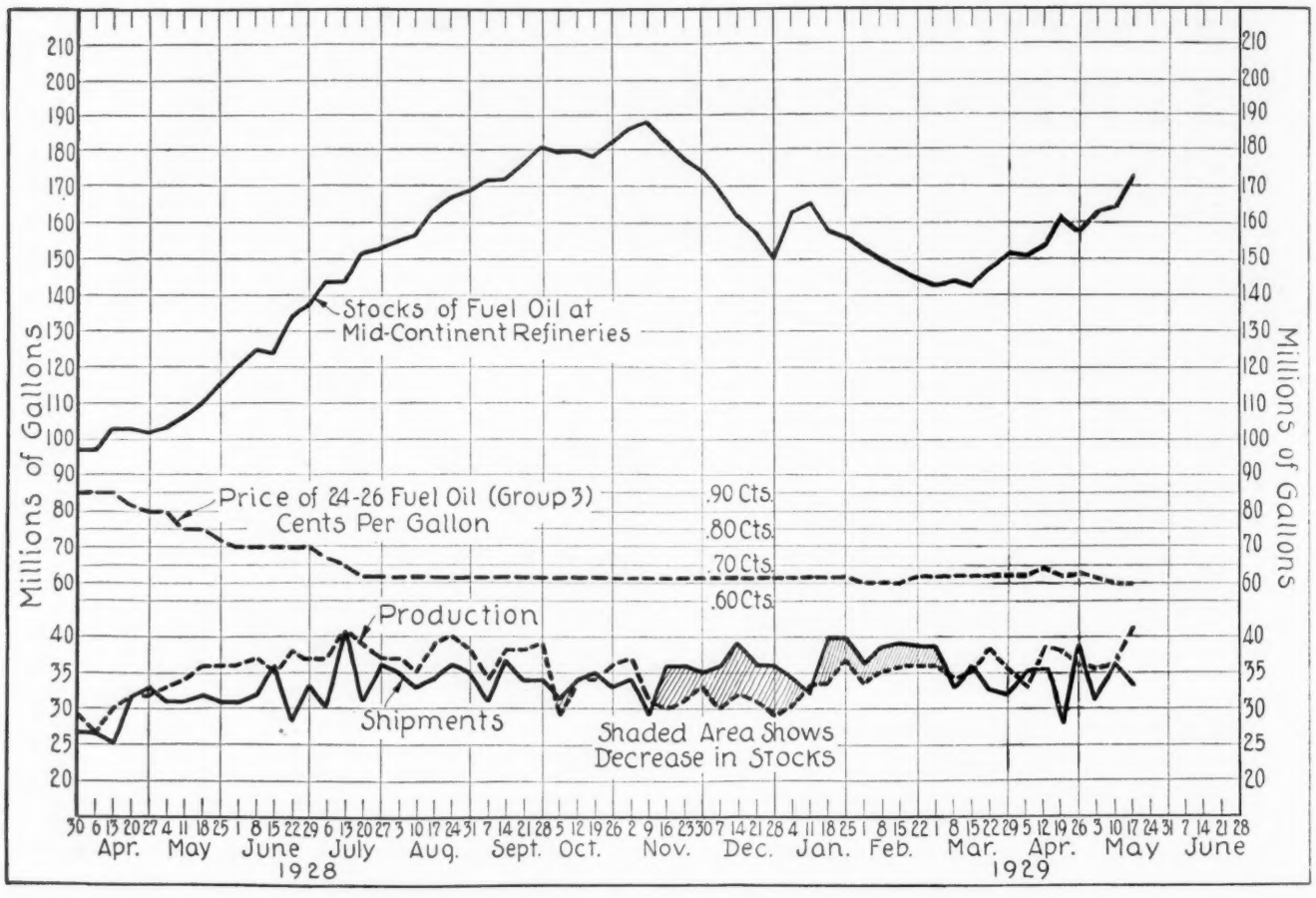
ELDORADO, KANSAS

JUST PHONE L. D. 11

Barometer of Mid-Continent Refinery Market—Week Ending May 17

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Millions of Gallons
Millions of Gallons
Stocks of Fuel Oil at Mid-Continent Refineries
Price of 24-26 Fuel Oil (Group 3) Cents Per Gallon
.90 Cts.
.80 Cts.
.70 Cts.
.60 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

California Refinery Market

Export Market Slow; Naturals Active

LOS ANGELES, May 16

CALIFORNIA export spot market had little activity during the past week. Although the eastern seaboard price on California gasoline is about 9.50 cents, the high freight rate has prevented any noticeable movement. Some clean tankers are reported to be held for $1.10 per barrel, or 2.6 cents per gallon. At the present quoted price of 7 to 7.75 cents for U. S. Motor gasoline laid down at seaboard, Los Angeles, local shippers are unable to meet Gulf competition.

U. S. Motor for interstate and intrastate shipment was noticeably stronger, with sellers' prices varying considerably. One broker had shipped several cars to Utah at 8 cents, while another was asking 7.25 to 7.75 cents and reported that he could not move it even at that price.

In state gasoline was moving freely at from 9 to 10.50 cents, without tax. This commodity was in demand as a result of the buying up of much of the surplus by major companies.

Natural gasoline market has been in a good condition lately, prices ranging from 8.50 to 9 cents, although one refiner reported several spot sales in the state for 7.75 cents, tax excluded. Major companies are reported to be buying up all of the absorption gasoline available as present proration plans are reducing the excess by a large amount.

The slight demand for kerosene has caused several suppliers to lower their prices, but spot sales continue to be few and far between.

Los Angeles refinery market had no further activity. Contracts with major companies for fuel oil kept the independent refiner from making many spot sales. One major is reported to have obtained commercial contracts for in excess of 30,000 barrels of fuel per day, which is more than it is able to run. To fulfill its contracts the company keeps the market well cleaned of any surplus.

Service station operators in and around Los Angeles are generally maintaining a retail price of 19½ cents on gasoline.

Richfield in British Columbia

LOS ANGELES, May 17.—Richfield Oil Co. of California is preparing to enter British Columbia and anticipates having Richfield products on sale at not less than 26 service stations in Vancouver through the Paragon Oil, Ltd. who are to be distributors for the company in that territory.

At Seattle, Richfield has just enlarged its bulk storage facilities to allow for the expected increase in trade. It now has tankage there for 45,000 barrels of gasoline, 140,000 barrels of fuel and diesel oils and 140,000 gallons of lubricating oil. At Tacoma, Wash., 50,000 barrels of fuel oil storage has just been erected.

Pennsylvania Market

Kerosene Prices Lower

CLEVELAND, May 20.—Kerosene prices were lower last week in the western Pennsylvania refinery market. The 45 w.w. kerosene was quoted at 7 to 7.50 cents; 46 w.w. at 7.375 to 8 cents; and 47 w.w. was unchanged. More refiners reduced their prices within these ranges today.

Weather conditions were adverse to gasoline and kerosene through the week. Fair weather was reported on Saturday, with more rain on Sunday.

Gasoline prices were unchanged generally over a week ago. More U. S. Motor gasoline was quoted at 9.25 cents, and a few refiners were asking 10 cents. Majority of sellers were asking 9.50 and 9.75 cents.

Cylinder and bright stocks continued to be in good demand. More refiners were offering goods on the spot market. Activity was not at the high pitch of previous weeks, but it was still a seller's market.

Light bright stock was offered at 56 and 57 cents. Some sellers asked 55 and 58 cents. One car was on the market today at 54 cents. One manufacturer reported business was brisker the fore part of last week than at the end of the week.

Cylinder stock prices were unchanged generally. The 600 steam refined was offered today at 35 to 37 cents, and the 650 steam refined at 40 to 42 cents.

Neutrals were unchanged in demand over a week ago. The 200 neutral No. 3 color was quoted at 29 to 30 cents today, 180 at 25 cents bottom, and 150 at 21 cents bottom.

Wax demand was quiet. The 122-124 and 124-126 grades were offered by most sellers at 3.25 cents.

Petrolatum prices were unchanged over May 13. One seller reported demand was improved, and another seller said demand continued to be fair.

Gulf Coast Lubes More Active

HOUSTON, May 20.—Gulf Coastal lubricants were moving in increasing volume in May, and Houston district manufacturers describe markets as healthier. Better movement was causing refiners to stick closer to list prices. A full cargo of red oils for export had been committed for loading the past week by a leading manufacturer, which removed an accumulation of certain grades from the district.

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Gulf Export Market

Market Quiet; Bunker Oil Higher

Staff Special
NEW YORK, May 18

ONLY one inquiry was reported in the market the week ended May 18 and, with the exception of bunker oils, which were slightly higher, prices were unchanged.

A French buyer came into the market May 14 for a cargo of approximately 70,000 barrels of 41-43 prime white kerosene, U. S. Motor and 64-66, 375 end point gasolines for loading July 1 to 15. He was expected to close later in the week. However, May 18, it was reported that he had withdrawn the inquiry.

Bunker oil advanced from 5 to 10 cents per barrel. In barrels, Grade C was unavailable under $0.95 and two sellers were asking $1.00; in cargoes prices ranged from $0.75 to $0.85. All sellers reported that there had been no exceptionally large cargoes placed, but that there had been a steady demand for the past two weeks.

The advance in prices which suppliers looked for the Export Petroleum Association to make the past week, failed to come, although two refiners expected to see an increase about the middle of the week of May 20. The increases which it is believed will be put into effect are: 0.25 to 0.50 cent on U. S. Motor; and an increase of 0.50 cent on higher gravity gasoline with a possible decrease in kerosene.

Domestic prices at the Gulf were likewise unchanged. One refiner reported that there has been a few cars of U. S. Motor sold there under the prevailing price of 8 cents, although he did not believe there was a sufficient amount to be a factor in the market. Kerosene was reported easy at 7.25 cents with gas oil remaining fair at 4 cents.

New York Domestic Market

Gasoline Higher as More Goods Move

Staff Special
NEW YORK, May 18

THE expected increase in gasoline prices along the Eastern seaboard materialized May 17 and 18, with the announcement by four companies that they had raised prices 0.50 cent. Three of the four operate mostly in New York while the other is one of the largest Eastern refiners and markets gasoline at New York, Charleston, Savannah and Jacksonville, as well as other more southern points. The advance brings prices at the four above districts to the level of that at Philadelphia, Baltimore and Norfolk, where quotations have been at 9 to 9.50 cents for the past two or three weeks.

The advance came in spite of the fact that there was reported shading of 9 cents in some instances. The shading has been only for occasional cars, however, and with the return of better weather the last two or three days of the week, it was believed that 9 cents was pretty well established. The four sellers who made the advance indicated it was due to the fact that the market was in much better shape and to the influence recent tank wagon advances have had on the market.

There were other refiners who did not regard the market so optimistically, however. One said that he believed the market would be better off to have it advance slowly and maintain the price reached, rather than have a sharper increase only to return to the original price. Another, a controlling factor in the market, continues to quote 9 cents at New York, Baltimore, Norfolk and Charleston. Still another refiner who has been posting a price of 9.25 cents for U. S. Motor at New York, said May 18 that his company now had no definite price but that they "were getting the market," indicating that sales were being made at from 9 to 9.25 cents.

At Philadelphia the price was well maintained at 9 to 9.25 cents, with the bulk of the movement at 9.25 cents. Some price shading was also reported there early in the week which was also blamed on the weather. One refiner said that he was having no trouble obtaining 9.50 cents for his gasoline and another reported that while he was having a fair business, shipments this month were no greater than last although he was expecting them to be heavier as they had been in previous years. One or two refiners reported that they had received inquiries for deferred shipment but were not quoting because of the advancing tendency of the market.

California gasoline was 9.50 cents at all points. One seller reported that he was virtually out of the market because it was impossible for him to make a profit at that price when tanker rates were so high. Under present conditions, he said, the market would have to be at least 10 cents per gallon for him to realize a profit. Another seller reported that he was also out of the market, presumably for the same reason. Another reported that jobbers were not seeking gasoline for over the balance of the month.

Heavier oils were unchanged in price although kerosene was slow and some price shading was reported. One seller, however, stated that he had no difficulty in obtaining 8 cents for two cars of kerosene at New York, from a customer whom he termed a "shrewd buyer." A refiner in Baltimore reported that he was still receiving 8.50 cents and that business was fair.

Free Parking Privilege Found Unprofitable

RICHMOND, Va., May 17.—The free parking facilities which the South Atlantic Oil Co. of Norfolk has maintained in downtown Norfolk for patrons of merchants is not successful and is gradually being discontinued. This was revealed to the Virginia Oil Men's Association here this week.

The South Atlantic had agreements with a number of downtown merchants to provide the patrons of those merchants with free parking on condition that the merchants guarantee the oil company 25,000 gallons gasoline business a month each. Tickets granting the free parking privilege were obtained only from the merchants.

Too few patrons of free parking bought enough gasoline and oil to warrant continuance of the agreements, a representative of the South Atlantic said. Persons who do not have the merchants' tickets pay 25 cents for parking. Renting space has been found more profitable than the business obtained through the free parking stunt, and the company expects to place its lot on a full rental basis shortly, it was announced.

Wax Market

Prices Decline

NEW YORK, May 18.—Wax prices continued to decline during the week ended May 18, refiners reporting only a few sales, and a like number of inquiries. Sales were for mostly small quantities with the bulk of the movement to the United Kingdom. Inquiries were also for small quantities and contained low offers.

Activity seemed centered on white crude scale, yellow crude scale and on lower melting point, fully refined goods. White crude scale was being quoted at the close of the week at 3 to 3.25 cents with reports of some goods being offered at 2.875 cents. Yellow crude scale was selling at 2.875 to 3 cents and 123-125 A.m.p. and 125-127 A.m.p. fully refined wax at 4 to 4.25 cents. Other fully refined goods were virtually unchanged.

One prominent dealer in waxes who, however, has not been actively engaged in the market for the past two weeks, stated that he knew of sale of 150 tons of white crude scale, May 14, at 3 cents. He has been keeping in close touch with the market and said that he believed that to be a fair price. Another refiner reported that he had sold 100 tons of 124-126 A.m.p. at 3.25 cents per pound to an English buyer and that he had later refused an offer of 3.15 cents per pound for 150 tons of 122-124 grade. He thought he could get a better price than that for it in spite of the fact that he indicated the market was slow.

A broker said he was able to buy white crude scale in excess of 100 tons at 2.875 cents but said he would not make the purchase until he had a buyer to whom he could turn it. His commission would bring the price to 3 cents or better. A refiner who had done no business during the week but who also has been keeping track of the market, said he believed it to be from 3 to 3.25 cents.

Yellow crude scale was lower by 0.25 to 0.50 cent than last week's prices. One sale of 50 tons was reported at 2.875 cents for domestic shipment. Several sellers were quoting 3 cents for this grade of goods.

From 4 to 4.25 cents was the general quotation on 123-125 and 125-127 A.m.p. fully refined wax. One seller reported a sale of 150 tons of the latter grade for shipment to the United Kingdom, where most of his inquiries originated, at 4.15 cents. The same seller May 18 reported that he had received a firm offer for an order of 124-126 white crude scale at 3.20 cents. He contemplated closing the deal.

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Complete Seaboard Market

(Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of quotations.)

U. S. MOTOR GASOLINE	May 20	May 13	May 6
New York harbor	9.00 – 9.50	9.00 – 9.25	9.00 – 9.25
Portland district	**11.375–11.50	**11.375–11.50	**11.375–11.50
Boston district	**10.875–11.00	**10.875–11.00	**10.875–11.00
Providence district	**10.875–11.00	**10.875–11.00	**10.875–11.00
Philadelphia district	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
Baltimore district	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
Norfolk district	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
Charleston district	9.00 – 9.50	9.00	9.00
Savannah district	9.00 – 9.50	9.00	9.00
Jacksonville district	9.00 – 9.50	9.00	9.00
CALIFORNIA, U. S. MOTOR GASOLINE			
New York harbor	9.50	9.50	9.50
Philadelphia district	9.50	9.50	9.50
Baltimore district	9.50	9.50	9.50
WATER WHITE KEROSENE			
New York harbor	8.00	8.00	8.00
Philadelphia district	8.00	8.00	8.00
Baltimore district	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
GAS OIL: 28-34 Gravity			
New York harbor	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
Boston district	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
FURNACE OIL: 36-40 Gravity			
New York harbor	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Boston district	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
GRADE C BUNKER OIL†			
New York harbor	$1.05	$1.05	$1.05
Boston district	$1.05	$1.05	$1.05
DIESEL OIL			
New York harbor	$2.00 –$2.10	$2.00 –$2.10	$2.00 –$2.10
MEDICINAL OILS, RUSSIAN			
885-890 s.g. 325-330 vis.	$0.75 – 0.80	$0.75 – 0.80	$0.75 – 0.80
870-875 s.g. 150-155 vis.	$0.65 – 0.70	$0.65 – 0.70	$0.65 – 0.70

Note: Above gasoline prices do not include inspection tax levied in some states
*Minimum delivered. **Delivered prices. †Lighterage 5c per bbl. additional

New York Export Market

(Lubricating oils are per gal. in bbls.)

	May 20	May 13	May 6
CYLINDER OILS (Pennsylvania Products)			
Bright stock, dark	*58.00 –62.00	*62.00 –63.00	*56.00
600 D filtered	*48.00	*48.00	*46.00 –48.00
600 Warren E filtered	*44.00 –47.00	*44.00 –46.00	*44.00 –46.00
600 s.r. unfiltered	*42.00 –43.00	*40.00 –43.00	*41.00 –42.00
650 s.r., unfiltered	*48.00 –50.00	*48.00	*47.00 –48.00
600 flash, s.r.	*52.00	*50.00 –51.00	*48.00 –49.00
630 flash, s.r.	*54.00 –56.00	*53.00 –54.00	*53.00 –54.00
*Nominal			
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00 –21.00	20.00	20.00
250 vis. No. 6 color	18.00 –19.00	19.50	19.50
200 vis. No. 6 color	16.00 –18.00	18.00	18.00
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	23.50	23.50	23.50
180 vis. No. 3¼ color	19.00	19.00	19.00
100 vis. No. 2¼ color	16.00	16.00	16.00
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	33.00	33.00	33.00
500 vis. No. 6½ color	31.00	31.00	31.00
400 vis. No. 7¼ color	30.00	30.00	30.00
300 vis. No. 6 color	29.00	29.00	29.00
200 vis. No. 6 color	28.00	28.00	28.00
MEDICINAL OILS			
875-885 s.g.	$0.80	$0.80	$0.80
865-870 s.g.	$0.70	$0.70	$0.70
WAXES (In cents per pound, f.a.s. carload lots)			
WHITE CRUDE SCALE (In barrels)			
122-124 A.m.p.	3.00 – 3.25	3.375– 3.625	3.50 – 3.75
124-126 A.m.p.	3.00 – 3.25	3.375– 3.625	3.50 – 3.875
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	4.00 – 4.25	4.375– 4.625	4.50 – 4.75
125-127 A.m.p.	4.00 – 4.25	4.50 – 4.625	4.50 – 4.75
128-130 A.m.p.	4.625– 4.75	4.625– 5.00	4.625– 5.125
130-132 A.m.p.	5.75 – 6.00	5.75 – 6.00	5.875– 6.00
133-135 A.m.p.	6.00 – 6.25	6.00 – 6.25	6.125– 6.25
135-137 A.m.p.	6.50 – 6.75	6.50 – 6.75	6.50 – 6.875
YELLOW CRUDE SCALE			
124-126 A.m.p.	2.875– 3.00	3.25 – 3.50	3.375– 3.625

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. or more unless otherwise noted and for export shipment only).

GASOLINE	May 20	May 13	May 6
U. S. Motor	8.50	8.50	8.50
60-62 400 e.p.	9.50	9.50	9.50
61-63, 390 e.p.	9.75	9.75	9.75
64-66, 375 e.p.	10.00	10.00	10.00
U. S. Motor, cases (cargoes)	$1.75	$1.75	$1.75
64-66, cases (cargoes)	$1.90	$1.90	$1.90
KEROSENE			
44 water white	8.75	8.75	8.75
41-43 prime white	7.75	7.75	7.75
Water white, cases (cargoes)	$1.80	$1.80	$1.80
Prime white, cases (cargoes)	$1.70	$1.70	$1.70
DOMESTIC GAS & BUNKER OILS			
*26-30 translucent gas oil	3.875– 4.00	3.875– 4.00	3.875– 4.00
*30 plus translucent gas oil	4.00	4.00	4.00
Grade C bunker oil	$0.95 –$1.00	$0.875–$0.95	$0.875–$0.95
Grade C bunker oil, cargoes	$0.75 – 0.85	$0.75 – 0.80	$0.75 – 0.80
*Less than ½ of 1% sulfur.			
MEXICAN CRUDE AND BUNKER OILS (F. O. B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$0.60	$0.65	$0.65
Grade C bunker oil, for bunkering purposes, taxes paid	$0.95 –$1.00	$0.85	$0.85
SOUTH TEXAS LUBRICATING OILS, (Viscosity at 100° F. (cold test 0) (Tanker, f. o. b. Houston)			
100 vis. No. 2 unfiltered pale	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
200 vis. No. 3 unfiltered pale	8.00 – 9.00	8.00 – 9.00	8.00 – 9.00
300 vis. No. 3 unfiltered pale	9.00 –10.00	9.00 –10.00	9.00 –10.00
500 vis. No. 3½ unfiltered pale	10.50 –11.00	10.50 –11.00	10.50 –11.00
750 vis. No. 4 unfiltered pale	13.00 –13.25	13.00 –13.25	13.00 –13.25
1200 vis. No. 5 unfiltered pale	16.00 –17.00	16.00 –17.00	16.00 –17.00
200 vis. No. 5-6 red oil	7.50	7.50	7.50
300 vis. No. 5-6 red oil	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
500 vis. No. 5-6 red oil	9.50 –10.50	9.50 –10.50	9.50 –10.50
750 vis. No. 5-6 red oil	11.50 –12.00	11.50 –12.00	11.50 –12.00
1200 vis. No. 5-6 red oil	16.50	16.50	16.50

Gulf Domestic Market

(Prices are f.o.b. Gulf oil terminals in Texas and Louisiana in shipments of 20,000 bbls. or more, representing sellers' opinions, for domestic shipment only).

	May 20	May 13	May 6
U. S. Motor gasoline	8.00	8.00	8.00
41-43 w.w. kerosene	7.25	7.25	7.25
*26-32 translucent gas oil	4.00	4.00	4.00
*Less than ½ of 1% sulfur.			

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

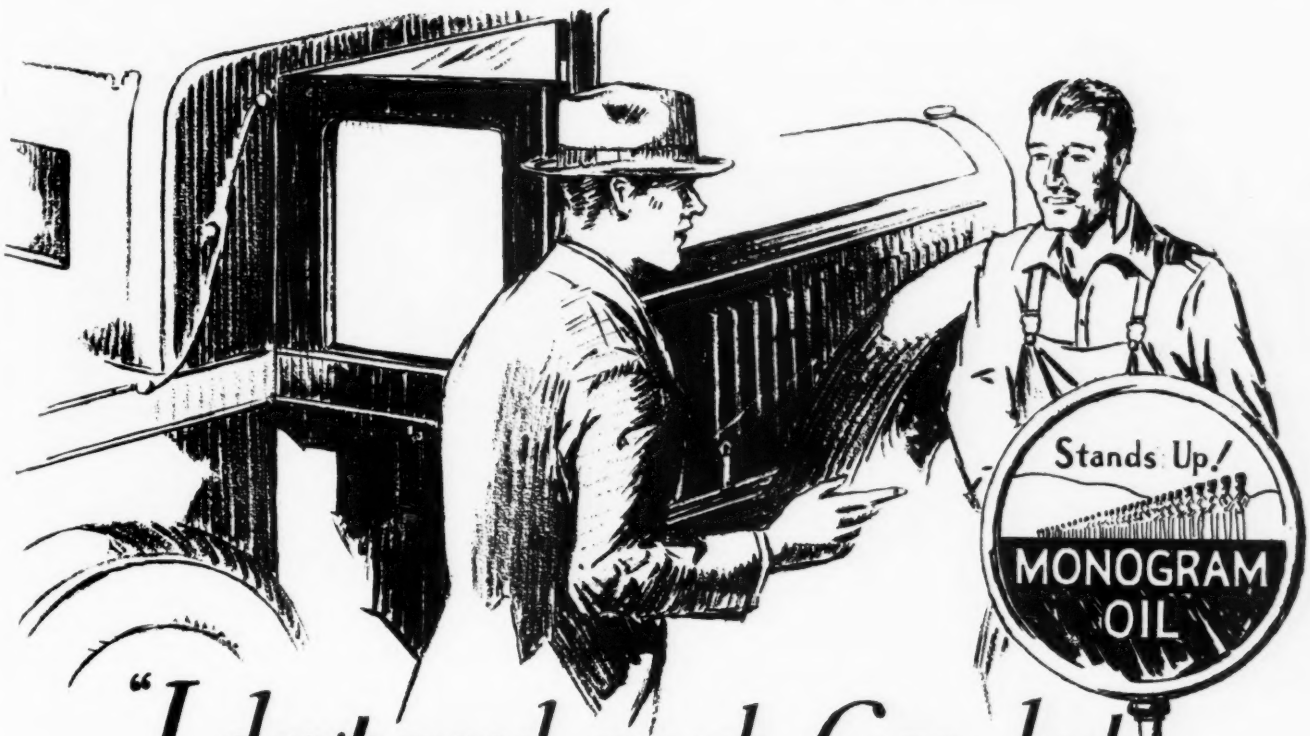
	May 20	May 13	May 6
Gasoline, U. S. Motor, 53-55 Gravity	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Gasoline, U. S. Motor-blends and special cuts	7.50 –10.00	7.50 –10.00	7.50 –10.00
Gas Oil, 30-34, per barrel	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
Diesel Oil, 27 plus, per barrel	$0.875–$1.00	$0.875–$1.00	$0.875–$1.00
Bunker oil, 14-18, per barrel	$0.70 –$0.85	$0.70 –$0.85	$0.70 –$0.85
Fuel oil, 14-18 per barrel	$0.60 –$0.85	$0.60 –$0.85	$0.60 –$0.85
Kerosene, 38-40 w.w., 125-150 flash, per gal.	5.50 – 6.25	5.50 – 6.25	5.50 – 6.25
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Kerosene, 38-40 w.w., 125, 150 flash	$1.45 –$1.50	$1.45 –$1.50	$1.45 –$1.50

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	May 20 Crude &/or Fuel	May 20 Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	28-29	29/6
Gulf to U. K. or Continental ports*	18	18/6
North Atlantic to U. K. or Continental ports*	16	16-16/6
Calif. to North Atlantic ports (not E. of N. Y.)	65	$1.00-$1.05
Gulf to North Atlantic ports (not E. of N. Y.)**	21-22	37-40

*Continental ports in the range between Bordeaux and Hamburg, both inclusive.
**For Venezuela loading 1c per bbl. additional. For Tampico loading 4c per bbl. additional.



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NEW YORK LUBRICATING OIL COMPANY
(Established 1893)
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Uniform
MONOGRAM
MOTOR OIL
Stands up

Tank Wagon Service Station Markets for Gasoline and Kerosene

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect May 20, 1929, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	12	2	14	18	13
Newark, N. J.	14	2	16	20	13
Annapolis, Md.	14	4	18	22	13
Baltimore, Md.	14	4	18	22	12
Cumberland, Md.	14	4	18	22	13
Washington, D. C.	14	2	16	20	12
Danville, Va.	14	5	19	23	13
Norfolk, Va.	14	5	19	23	13
Richmond, Va.	14	5	19	23	13
Roanoke, Va.	14	5	19	23	13
Petersburg, Va.	14	5	19	23	13
Charleston, W. Va.	14	4	18	22	13
Keyser, W. Va.	14	4	18	22	13
Parkersburg, W. Va.	14	4	18	22	13
Wheeling, W. Va.	14	4	18	22	13
Charlotte, N. C.	14	5	19	23	13
Hickory, N. C.	14	5	19	23	13
Mt. Airy, N. C.	14	5	19	23	13
Salisbury, N. C.	14	5	19	21	13
Charleston, S. C.	14	6	20	24	13
Columbia, S. C.	14	6	20	24	13

CONTINENTAL OIL

Denver, Colo.	13	4	17	20	15.5
Pueblo, Colo.	13	4	17	20	15.5
Grand Junc., Colo.	17.5	4	21.5	24.5	19
Casper, Wyo.	16	4	20	23	14
Cheyenne, Wyo.	17	4	21	24	15.5
Butte, Mont.	19.5	5	24.5	27.5	20
Helena, Mont.	19.5	5	24.5	27.5	20
Salt Lake City, Utah	17.5	3½	21	24	17
Boise, Ida.	19.5	4	23.5	26.5	19
Twin Falls, Ida.	19.5	4	23.5	26.5	19
Albuquerque, N. M.	15	5	20	23	17

S. O. CALIFORNIA

Phoenix, Ariz.	14	4	18	22	21.5
Los Angeles, Cal.	15.5	3	18.5	22.5	15.5
Fresno, Cal.	16	3	19	23	16.5
San Francisco, Cal.	16	3	19	23	15.5
Reno, Nev.	20	4	24	28	19
Portland, Ore.	16.5	3	19.5	23.5	16.5
Seattle, Wash.	16.5	2	18.5	22.5	16.5
Spokane, Wash.	20.5	2	22.5	26.5	20.5
Tacoma, Wash.	16.5	2	18.5	22.5	16.5

Note: 3c per gal. discount to dealers off t.w. price thru territory.

S. O. LOUISIANA

Little Rock, Ark.	13	5	18	22	13
Alexandria, La.	12	4	16	20	†16
Baton Rouge, La.	11	4	15	19	†14.5
Lake Charles, La.	††13.5	4	††17.5	††21.5	†16
New Orleans, La.	*10.5	4	*14.5	18.5	†16
Shreveport, La.	12	4	16	20	†15
Lafayette, La.	**13	4	**17	**21	†14
Bristol, Tenn.	15	5	20	23	14
Chattanooga, Tenn.	14.5	5	19.5	23.5	16
Knoxville, Tenn.	15	5	20	24	16
Nashville, Tenn.	12	5	17	21	16
Memphis, Tenn.	11	5	16	20	12.5

*New Orleans gasoline prices include 1c parish tax in addition to 4c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

**Lafayette gasoline prices include 1c parish tax in addition to 4c state tax.

††Lake Charles gasoline prices include 1c parish tax.

S. O. KENTUCKY

Ashland, Ky.	13	5	18	19	15.5
Catlettsburg, Ky.	13	5	18	19	15.5
Lexington, Ky.	15	5	20	22	15.5
Louisville, Ky.	15	5	20	22	15
Covington, Ky.	15	5	20	21	15.5
Clarksdale, Miss.	14	5	19	21	12.5
Gulfport, Miss.††	17.5	5	22.5	24.5	14
Jackson, Miss.	12	5	17	19	13
Natchez, Miss.	15.5	5	20.5	22.5	14
Vicksburg, Miss.	15.5	5	20.5	22.5	14
Birmingham, Ala.	17	4	21	23	16
Mobile, Ala.‡	17	4	21	23	15
Montgomery, Ala.*	18	4	22	24	16.5
Atlanta, Ga.	17	4	21	23	†16.5
Augusta, Ga.	17	4	21	23	†15.5
Macon, Ga.	17	4	21	23	†16.5
Savannah, Ga.	16	4	20	22	†15.5
Jacksonville, Fla.	17	5	22	24	14.5
Miami, Fla.	18	5	23	25	15.5
Tampa, Fla.	17	5	22	24	14.5
Pensacola, Fla.**	18	5	23	25	14.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included. ‡Mobile gasoline prices include 1c city tax.

†Georgia kerosene prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

Latest Changes In Tank Wagon Prices

Gasoline Changes

S. O. New York—T.w. and s.s. prices gasoline up 1s generally thru state, except New York City district unchanged, **May 17.** This advance affected Albany, Buffalo, Rochester and Syracuse districts, but change at Albany was 2c, instead of 1c. New t.w. price at these points is 17c, s.s. 18c, including 2c tax.

S. O. Ohio—T.w. and s.s. prices gasoline up 1c, thru Scioto county, and t.w. up 1c, s.s. 2c, thru Fayette county, excepting Washington C. H., **May 15.** Both counties are back on state-wide price schedule of 19c t.w. and 20c s.s. including 4c tax.

T.w. cut 1c, s.s. 2c, Bryan, O., both to 17c, including tax, **May 15.**

T.w. and s.s. cut 1c, Arcadia, Mortimer, and Arlington, all in Hancock county, to 18c and 19c respectively, **May 16.**

S.s. price only cut 1c, Lima, Fostoria and Mansfield, to 18c, **May 16.** T.w. unchanged at 18c.

T.w. and s.s. up 1c, thru Fairfield county, placing that county back on state-wide price schedule of 19c and 20c respectively, **May 17.**

T.w. up 3c, s.s. 4c, Wilmington, O., to 19c and 20c state-wide schedule, **May 19.**

T.w. cut 1c, s.s. 2c, Xenia (Greene county), and St. Paris (Champaign county) both to 18c, including tax, **May 17.**

S.s. only cut 1c, Arcadia and Perrysburg, to 18c, **May 17.** T.W. unchanged at 18c.

S. O. Louisiana—T.w. and s.s. gasoline cut 2c, New Orleans, to 14.5c and 18.5c, including 4c state and 1c parish tax, **May 11.**

S. O. Indiana—T.w. and s.s. prices gasoline advanced 1c, thru territory, **May 18.** Last previous general change was a 1c cut on t.w., 2c cut on s.s., **Jan. 29.**

S. O. Kentucky—T.w. and s.s. prices advanced 3c, Birmingham, to 21c and 23c respectively, **May 15.**

T.w. and s.s. prices up 2c, Montgomery, to 22c and 24c, **May 15.**

T.w. and s.s. up 2c, Vicksburg, to 20.5c and 22.5c, **May 11.**

T.w. and s.s. up 2c, Macon, to 21c and 23c, **May 9.**

T.w. and s.s. cut 1c, Jackson, 17c and 19c, **May 12.**

Magnolia Petroleum—T.w. and s.s. gasoline cut 1c, Tulsa, to 13c and 17c respectively, including 3c tax, **May 18.**

Continental Oil—T.w. and s.s. gasoline cut 2c, Pueblo, to 17c and 20c respectively, including 4c tax, **May 13.**

T.w. and s.s. cut 2c, Denver, to 17c and 20c, **May 16.**

T.w. and s.s. gasoline advanced 1c, thru Wyoming, Colorado and eastern Montana, excepting Denver, Pueblo, Butte and Helena unchanged, **May 19.** Grand Junction, Colo., was cut 1c on May 19, instead of advanced, making new prices 21.5c and 24.5c, including 4c tax.

Kerosene Changes

S. O. Kentucky—Kerosene up 3c, Birmingham, to 16c t.w., **May 15.**

Magnolia Petroleum—Kerosene cut 2c, Oklahoma City, to 10c t.w., **May 15.**

Kerosene cut 1c, San Antonio, to 11c t.w., **May 14.**

S. O. NEBRASKA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Omaha, Neb.	14.25	4	18.25	20.25	13.25
McCook	15.75	4	19.75	21.75	14.75
Norfolk	14.75	4	18.75	20.75	13.75
North Platte	15.75	4	19.75	21.75	14.50
Scottsbluff	15.75	4	19.75	21.75	14.25

S. O. INDIANA

Chicago, Ill.	15.0	0	15.0	16.0	13
Decatur, Ill.	15.2	0	15.2	16.2	13.1
E. St. Louis, Ill.	14.4	0	14.4	15.4	12.2
Joliet, Ill.	15.4	0	15.4	16.4	13.3
Peoria, Ill.	15.2	0	15.2	16.2	13.1
Quincy, Ill.	15.2	0	15.2	16.2	12.9
Indianapolis, Ind.	15.2	4	19.2	20.2	14.2
Evansville, Ind.	15	4	19	20	14
South Bend, Ind.	15.4	4	19.4	20.4	14.4
Detroit, Mich.	15.8	3	18.8	19.8	14.7
Grand Rapids, Mich.	15.7	3	18.7	19.7	14.6
Saginaw, Mich.	15.9	3	18.9	19.9	14.8

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Green Bay, Wisc.	15.6	2	17.6	18.6	13.4
Madison, Wisc.	15.3	2	17.3	18.3	13.1
Milwaukee, Wisc.	15.1	2	17.1	18.1	12.9
La Cross, Wisc.	16.2	2	18.2	19.2	14
Minneapolis, Minn.	16.2	3	19.2	20.2	13.9
Duluth, Minn.	16.5	3	19.5	20.5	13.9
Mankato, Minn.	16.1	3	19.1	20.1	13.7
Des Moines, Ia.	15.5	3	18.5	19.5	13.3
Davenport, Ia.	15.5	3	18.5	19.5	13.3
Sioux City, Ia.	15.1	3	18.1	19.1	12.9
Mason City, Ia.	15.5	3	18.5	19.5	13.3
St. Louis, Mo.	*14.9	2	16.9	17.9	12.3
Kansas City, Mo.	†15.9	2	17.9	18.9	11.6
St. Joseph, Mo.	†15.5	2	17.5	18.5	12.2
Fargo, N. D.	17.9	2	19.9	20.9	15.9
Grand Forks, N. D.	18.2	2	20.2	21.2	16.2
Minot, N. D.	17.9	2	19.9	20.9	15.9
Pierre, S. D.	16	4	20	21	14.4
Huron, S. D.	16.3	4	20.3	21.3	14.7
Wichita, Kans.	13.8	3	16.8	17.8	11.8

Above prices include these inspection fees on both gasoline and kerosene, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosene; Arkansas, 1/20c on both Florida, 1/8c on both; Indiana, 2/25c on both; Kansas, 1/50c on both; Louisiana, 1/32c on gasoline, 1c on kerosene; Minnesota, 3/50c on both; Missouri, 1/50c on both; Nebraska, 3/50c to 1/2c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c on kerosene; Wisconsin, 3/50c on both.

Kerosene inspection fees only: Iowa, 13/100c; Michigan 1/5c to 4/5c per gal.

In Illinois, cities and villages have the power to appoint oil inspectors and fix inspection fees which is done in some instances. In some cases in the above states or other states there are local inspection fees.

Tank Wagon, Service Station Markets for Gasoline and Kerosene

Prices in Effect May 20, 1929

S. O. INDIANA

	Gasoline T.W. Tax	Gasoline Total T.W.	Gasoline S.S.	Oil T.W.
Bartlesville, Okla.	3	16.5	17.5	11.5

S. O. Indiana's quantity contract price schedule thru territory except Chicago on tank truck deliveries of gasoline, figured from the service station price, is 2c for 500 gals. or more a month; 2½c for 2000 gals. or more a month and 3c for 6000 gals. or more a month.

In Chicago and vicinity, these discounts apply: Over 500 gals. per month, 2c per gal. off service station price; over 1,000 gals. per month, 4c per gal. off service station price.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. OHIO

Bryan, Ohio	*13	4	*17	17	14
Tuscarawas county, and ††other points	††14	4	††18	18	14
†At Other Competitive Points	*14	4	*18	19	14
Elsewhere in Ohio	*15	4	*19	20	14

†These points are: all of Franklin county, including Columbus, Westerville, Worthington and Rome; and these additional points: Marion, Hicksville, Celina, Piqua, Arlington and Mortimer.

*Dealers and commercial accounts get 2c per gal. off t. w. price.

††These other points are: Hamilton, Findlay, Washington C. H., Lima, Arcadia, Perrysburg, Fostoria, Wapakoneta, Urbana, Jamestown, Mansfield, Xenia and St. Paris. Discount to dealers is 3c per gal. off t.w. price.

MAGNOLIA PETROLEUM

Muskogee, Okla.	10	3	13	17	13
Oklahoma City	10	3	13	17	10
Tulsa, Okla.	10	3	13	17	10
Fort Smith, Ark.†	12	†3	15	19	12
Little Rock, Ark.	12	5	17	21	13
Texarkana, Ark.*	12	*2	14	18	13
Dallas, Tex.	11	2	13	17	13
Fort Worth, Tex.	11	2	13	16	13
Houston, Tex.	12	2	14	18	13
San Antonio, Tex.	11	2	13	17	11
El Paso, Tex.	15	2	17	20	16

*Within city of Texarkana, the state tax on gasoline is 2c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 3c applies. In this district outside of the city, the 5c Arkansas tax applies.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

New York City	17	2	19	*21	15
Albany, N. Y.	15	2	17	18	15
Buffalo, N. Y.	15	2	17	18	14
Rochester, N. Y.	15	2	17	18	13
Syracuse, N. Y.	15	2	17	18	12
Boston, Mass.	16	2	18	20	15
Augusta, Me.	16	4	20	22	15
Manchester, N. H.	16	4	20	22	15
Burlington, Vt.	16	4	20	22	15

Note: S. O. New York allows concessions of 1 to 2c per gal. to dealers under posted tank wagon prices.

*The Standard of New York does not operate stations in New York City. This figure is the retail price of a principal station operator in New York selling Socony gasoline.

ATLANTIC REFINING

Pittsburgh, Pa.	†16	*	†16	21	14
Philadelphia, Pa.	†16	*	†16	21	14
Allentown, Pa.	†16	*	†16	21	14
Erie, Pa.	†13	*	†13	18	14
Scranton, Pa.	†16	*	†16	21	14
Altoona, Pa.	†16	*	†16	21	14
Dover, Del.	†16	3	†19	21	14
Wilmington, Del.	†16	3	†19	21	14
Boston, Mass.	16	2	18	20	15
Springfield, Mass.	16	2	18	20	15
Worcester, Mass.	16	2	18	20	15
Fall River, Mass.	14	2	16	17	15
Providence, R. I.	13	2	15	16	15
Hartford, Conn.	16	2	18	20	14
New Haven, Conn.	16	2	18	20	15
Atlantic City, N. J.	16	2	18	20	13
Camden, N. J.	16	2	18	20	13
Trenton, N. J.	16	2	18	20	13
Annapolis, Md.	16	4	20	22	13
Baltimore, Md.	16	4	20	22	13
Hagerstown, Md.	16	4	20	22	13
Richmond, Va.	16	5	21	23	13
Wilmington, N. C.	16	4	20	22	13
Brunswick, Ga.	17	4	21	23	**16.5
Jacksonville, Fla.	17	5	22	24	14.5

*3-cent state tax is collected by retail dealer and paid by him directly to state.

†The Atlantic Refg Co. recognizes a 2c a gal. discount from its posted tank wagon market on sales to dealers for purposes of resale.

The company also recognizes a maximum discount of 2c per gallon to commercial accounts under contract for one year.

**Georgia kerosene prices include 1c state tax.

(Continued on Page 148)

neon

YOU rightly expect the leader of an industry to offer only a perfected product. **Electric Tube Signs**

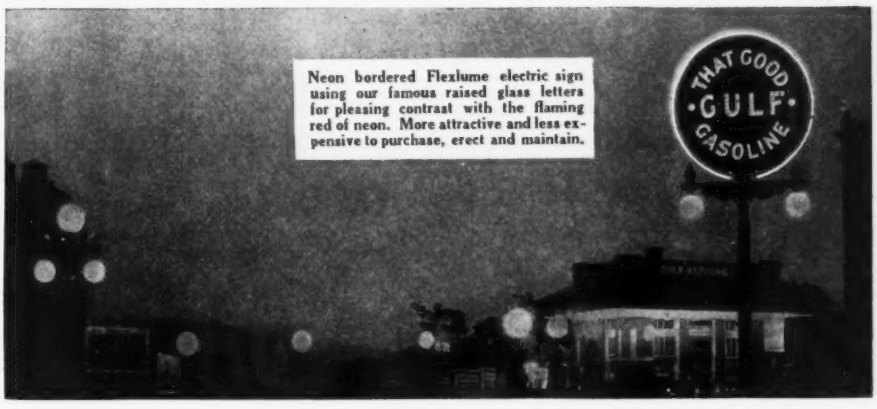
So, until it had developed really superior neon electric signs (built complete in its own plants), you did not find Flexlume's name and mark affixed to such types of display. But NOW . . . . . .

Revolutionary electrodes, based on a new principle, have been originated by Flexlume. They assure more brilliant illumination and much longer tube life. Maintenance too has been greatly simplified; tubes easily plug in; electric connections are automatic; high voltage wires are not touched; terminals are weatherproof . . . these are valuable features developed by Flexlume for which patents are pending. They combine with the other known qualities of Flexlume construction to provide lasting beauty and effectiveness.

Stimulate your business by individualizing locations with a neon or other electric sign—designed, erected and serviced by Flexlume whose financial responsibility, guarantee on every sign, and nation-wide sales and service branches insure satisfaction. Write us to submit color sketch —no charge or obligation. FLEXLUME CORPORATION, 1973 Military Road, Buffalo, N. Y.

Sales and Service Offices in Chief Cities of U. S. and Can — FLEXLUME — *Factories at Buffalo, N. Y. and Toronto, Can.*

FLEXLUME ELECTRIC DISPLAYS


Neon bordered Flexlume electric sign using our famous raised glass letters for pleasing contrast with the flaming red of neon. More attractive and less expensive to purchase, erect and maintain.
THAT GOOD
GULF
GASOLINE

Tube . . Glass Letter . . Exposed Lamp . . Combination Designs

OIL TIGHT STORAGE

Reduces Gasoline Shrinkage

BROWN DOUBLE ELECTRIC WELDED TANKS ARE OIL TIGHT

Send us your inquiries

BROWN SHEET IRON & STEEL CO.

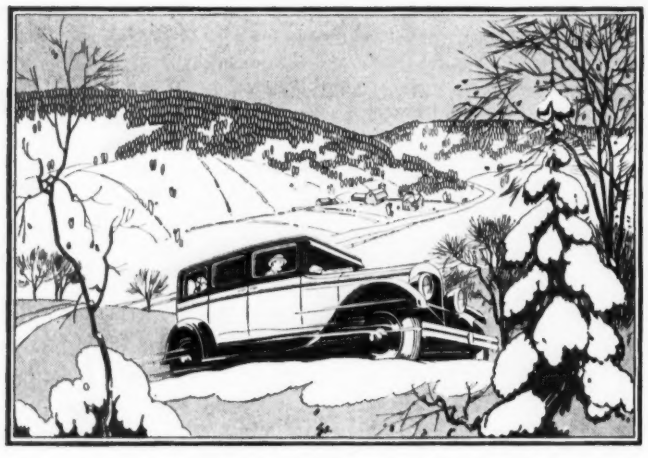
St. Paul **Minnesota**

In any weather –
In any clime

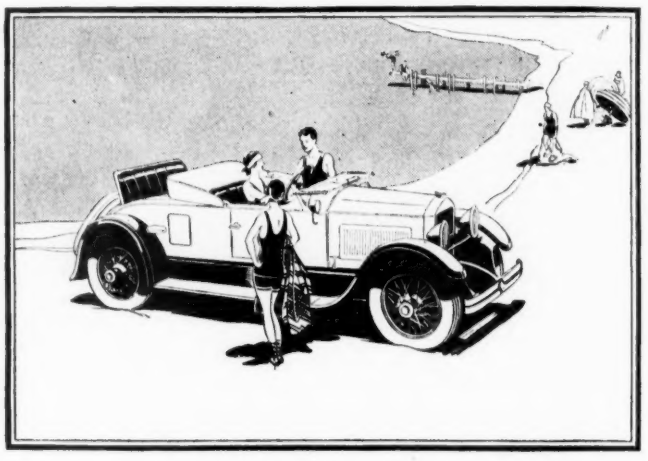
GRAIGRENE

[PRONOUNCED GREY-GREEN]

. . . gives perfect lubrication to transmission, differential, chassis and wheels



In Cold Weather



In Hot Weather

Motorists

are demanding Graigrene for summer driving NOW

Stock Graigrene and be prepared to serve the motorists in your territory before some other dealer or distributor cashes in on this big profit-maker. Start NOW—to get the long green with Graigrene.

Manufactured by

Viscosity Oil Company

Established 1894

W. D. SIMMONS, President

Central Manufacturing District, CHICAGO

Phone Yards 7196

Crude Oil Prices (in Effect May 20, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective March 14, 1927

Grades A.....$1.20	*Grades B.....$1.15
‡Grades B (light crude):	
35-35.9.....$1.37	38-38.9.....$1.43
36-36.9..... 1.39	39-39.9..... 1.45
37-37.9..... 1.41	40 and above.... 1.47

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on all below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective Jan. 25, 1929)

‡Salt Creek 29-29.9	$0.90
" " 30-30.9	0.96
" " 31-31.9	1.02
" " 32-32.9	1.08
" " 33-33.9	1.11
" " 34-34.9	1.14
" " 35-35.9	1.17
" " 36-36.9	1.20
" " 37 and above	1.23
Elk Basin	1.36
Grass Creek light	1.36
Big Muddy	$1.28
Lance Creek	1.38
Rock Creek	1.18
Mule Creek	1.10
Rex Lake	1.10
‡Osage	1.38
‡Cat Creek, Mont.	1.48
Sunburst, Mont.	1.65
‡Hogback, N. Mex.	1.53
Artesia, N. Mex.	1.08

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

***Standard Oil Co. of California**

Gravity	Signal Hill Seal Beach Alamitos Heights Huntington Beach	Inglewood Torrance	Olinda-Brea Canon Richfield	Athens-Rosecrans Domingues	Elwood Terrace	Whittier La Habra	Coyote Hills	Santa Fe Springs	Newhall McKittrick †Kern River	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Montebello	Kettleman Hills	*Santa Maria (Orcutt)	*Ventura
14-14.9	$ .70	$ .70	$ .70	....	....	$ .70	$ .70	....	$ .50	$ .50	$ .50	$ .50	$ .50	$ .70	....	$ .65	$ .70
15-15.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
16-16.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
17-17.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
18-18.9	.75	.75	.75	....	....	.75	.75	....	.50	.56	.56	.56	.56	.70	....	.70	.75
19-19.9	.80	.80	.80	....	....	.80	.80	....	.50	.62	.62	.62	.62	.75	$1.65	.70	.80
20-20.9	.85	.85	.85	....	....	.84	.84	....	....	.68	.68	.68	.68	.80	for	.70	.85
21-21.9	.89	.89	.89	....	....	.88	.88	.89	....	.74	.74	.74	.74	.85	55°	.86	.86
22-22.9	.93	.93	.93	....	....	.91	.91	.92	....	.80	.80	.80	.80	.90	gravity	.87	.87
23-23.9	.97	.97	.97	....	....	....	.94	.95	....	.85	.85	.85	.85	.95	and	.90	.90
24-24.9	1.01	1.01	1.01	1.01	....	....	.97	.98	....	.90	.90	.88	.88	.98	over	.94	.94
25-25.9	1.05	1.05	1.05	1.05	....	....	1.00	1.01	....	.95	.95	.91	.91	1.01	....	.98	.98
26-26.9	1.09	1.09	1.09	1.09	....	....	1.04	1.04	....	1.00	1.00	.94	.94	1.04	....	1.02	1.02
27-27.9	1.13	1.13	1.13	1.13	....	....	1.08	1.07	....	1.05	1.05	.98	.97	1.07	....	....	1.06
28-28.9	1.17	1.17	1.17	1.17	....	....	1.12	1.10	....	1.10	1.10	1.02	....	1.10	....	....	1.10
29-29.9	1.21	....	1.21	1.21	....	....	1.16	1.15	....	1.16	1.16	1.06	....	1.13	....	....	1.14
30-30.9	1.25	....	1.25	1.25	....	....	1.20	1.20	....	1.22	1.22	1.10	....	1.16	....	....	1.18
31-31.9	1.30	....	....	1.30	....	....	....	1.25	....	1.28	1.28	1.14	....	....	....	....	1.23
32-32.9	1.35	....	....	1.35	....	....	....	1.30	....	1.34	1.34	1.18	....	....	....	....	1.28
33-33.9	....	....	....	1.41	....	....	....	1.35	....	1.40	.140	1.22	....	....	....	....	1.34
34-34.9	....	....	....	1.47	$1.16	....	....	1.40	....	....	1.46	1.26	....	....	....	....	....
35-35.9	....	....	....	1.53	1.22	....	....	1.45	....	....	....	1.30	....	....	....	....	....
36-36.9	....	....	....	1.59	1.28	....	....	1.50	....	....	....	....	....	....	....	....	....
37-37.9	....	....	....	1.65	1.34	....	....	1.55	....	....	....	....	....	....	....	....	....
38-38.9	....	....	....	1.71	1.40	....	....	1.60	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	1.77	1.46	....	....	1.65	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	1.83	1.52	....	....	....	....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	1.89	1.58	....	....	....	....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	1.95	1.64	....	....	....	....	....	....	....	....	....	....	....	....

*Santa Maria and Ventura postings are by Union Oil Co. Union Oil Co. posts same prices in all above fields as Standard except it does not post prices in Wheeler Ridge, Whittier, La Habra, Newhall and Kettleman Hills. Standard does not contract for crude testing 11-13.9 gravity, but pays 45c a barrel when purchased.

†Kern River down to 12° gravity is 50c; 11-11.9 is 45c.

Six Nashville Jobbers Join in Merger

NASHVILLE, Tenn., May 18.—A company which will have jobbing, compounding and refining facilities was organized here on May 1 by six of the largest, oldest and best known oil jobbers and compounders of Nashville. The newly merged company will operate as the Apex Oil Corp., with headquarters in Nashville.

The companies included in the merger were, according to G. B. Dickey, of the Benzol Gas Corp., one of the merging companies, and secretary-treasurer of the Tennessee Oil Men's Association, Inc.

Benzol Gas Corp., Cassetty Oil & Grease Co., Frank Reed Oil Co., Thompson Oil Co., Estes-Cooper Oil Co., and Southern Oil Service, Inc., all of Nashville. The latter company owns a 500-barrel skimming plant here but it has been inactive for some time. This same company also has a compounding plant, as has the Cassetty company.

Officers of the newly merged Apex company were chosen from the various merging companies. They are:

John Lowe, formerly head of the Cassetty company, president; Frank Reed, head of the company bearing his name, vice-president; G. B. Dickey, vice-president; H. A. Thompson, Thompson company, vice-president; and Harold Lowe, Cassetty company, secretary and treasurer.

The new company will handle petroleum products under the trade name of Apex, which brand has been marketed in this territory for the past 40 years, according to Mr. Dickey. Magic Benzol gasoline and Ethyl gasoline will be sold at the combined retail outlets of all six companies, numbering about 150.

The Cassetty company is the oldest of the above, having been organized in 1910.

Crude Price Changes

CHICAGO, May 20.—Beginning with this issue, prices on Muskegon, Mich. crude are being included in the crude price table. The present price of $1 on Dundee, Muskegon crude as posted by the Dixie Oil Co. (Standard of Indiana subsidiary), went into effect May 5, 1929.

an OIL for MODERN MOTORS

Modern Automobile Engines demand an oil which flows freely, gives instant lubrication and will not break down under intense heat and continued high speed.

PENRECO Super-Refined MOTOROILS

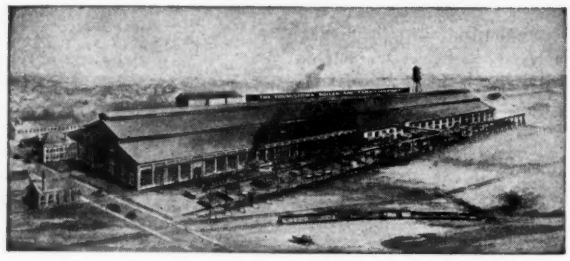
will enable you to fill this demand and help you to build up a profitable repeat business. Samples, specifications and prices for the asking.

Wire—Phone Write

Pennsylvania Refining Co.

Karns City, Penna.

Youngstown
"KEENE TANKS MADE"
STANDARDIZED
REG. U.S. PAT. OFF.



SPECULATION versus INVESTMENT

The tank market is not unlike the stock market. You can speculate on tanks that *might* be all right. Or you can invest in Youngstown Tanks which you *know* are right—which will yield long years of trouble-free service—which will pay annual dividends on the capital stored inside because of their faultless leak-proof construction.

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a market survey of sound tank investments.

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National Petroleum News
1213 W. 3rd Street Cleveland, Ohio

Crude Oil Prices (in Effect May 20, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$4.10
Bradford District Oil in National Transit Lines (Bradford District)	4.10
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	4.00
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	4.00
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.90
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.85
Cabell Grade in Eureka Pipe Lines (West Virginia)	1.50
Corning Grade in Buckeye Pipe Lines (Ohio)	1.75
Corning, O., heavy grade	1.65
Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.65
Ragland Grade in Cumberland Pipe Lines (Kentucky)	$0.60

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines	$1.65

MICHIGAN

(Posted by Dixie Oil Co.)

Dundee (Muskegon)	$1.00

Pure Oil Co.

Midland, Midland County	$1.50

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective April 26, 1929

Wooster	$1.75	Princeton	$1.60
Lima	1.65	Illinois	1.60
Waterloo	1.20	Plymouth	1.18
Indiana	1.42	West Kentucky	1.68

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Petrolia	$1.90
Oil Springs	1.97

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective May 20, 1929

Below 25	$0.85	35-35.9	$1.40
25-25.9	0.90	36-36.9	1.45
26-26.9	0.95	37-37.9	1.50
27-27.9	1.00	38-38.9	1.55
28-28.9	1.05	39-39.9	1.60
29-29.9	1.10	40-40.9	1.65
30-30.9	1.15	41-41.9	1.70
31-31.9	1.20	42-42.9	1.75
32-32.9	1.25	43-43.9	1.80
33-33.9	1.30	44 and above	1.85
34-34.9	1.35		

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

Jan. 24, 1929, same schedule as Prairie in above fields.

Mirando, Tex	$0.80
Salt Flat, Tex	1.00

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

Jan. 25, 1929, Magnolia posted in above fields and in Panola Co., same schedule as Prairie, except these grades:

Below 26	$0.60	29-29.9	$0.80
26-26.9	0.65	30-30.9	0.90
27-27.9	0.70	31-31.9	1.00
28-28.9	0.75		

Glasscock, Crane, Upton, Winkler Counties	0.65
Chalkfield (Howard Co.)	0.65
Iatan district	0.93
Corsicana heavy	0.80
Luling	0.80

Carter Oil Co.

(Oklahoma and Kansas)

Jan. 24, 1929, same schedule as Prairie except Carter does not post oil below 25.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Effective Jan. 24, 1929

Hutchinson and Carson Counties:

Below 32	$0.72	38-38.9	$0.96
32-32.9	0.78	39-39.9	0.99
33-33.9	0.81	40-40.9	1.02
34-34.9	0.84	41-41.9	1.05
35-35.9	0.87	42-42.9	1.08
36-36.9	0.90	43-43.9	1.11
37-37.9	0.93	44 and above	1.14

Wheeler County:

Below 30	$0.70	37-37.9	$1.03
30-30.9	0.76	38-38.9	1.06
31-31.9	0.82	39-39.9	1.09
32-32.9	0.88	40-40.9	1.12
33-33.9	0.91	41-41.9	1.15
34-34.9	0.94	42-42.9	1.18
35-35.9	0.97	43-43.9	1.21
36-36.9	1.00	44 and above	1.24

Gray County:

Below 29	$0.69	37-37.9	$1.08
29-29.9	0.75	38-38.9	1.11
30-30.9	0.81	39-39.9	1.14
31-31.9	0.87	40-40.9	1.17
32-32.9	0.93	41-41.9	1.20
33-33.9	0.96	42-42.9	1.23
34-34.9	0.99	43-43.9	1.26
35-35.9	1.02	44 and above	1.29
36-36.9	1.05		

On May 1, The Texas Co. made its first postings on Panhandle crude, adopting same gravity and price schedule as Humble.

WEST TEXAS

Humble Oil & Refining Co.

Effective July 26, 1928

Winkler, Crane, Upton, Crockett, Howard and Pecos Counties	$0.65

On May 1, The Texas Co. posted same prices as Humble in West Texas, also same prices in Lea County, New Mexico.

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado Crichton, De Soto and **Cotton Valley.

Effective Jan. 26, 1929

Below 28	$0.78	36-36.9	$1.20
28-28.9	0.84	37-37.9	1.23
29-29.9	0.90	38-38.9	1.26
30-30.9	0.96	39-39.9	1.29
31-31.9	1.02	40-40.9	1.32
32-32.9	1.08	41-41.9	1.35
33-33.9	1.11	42-42.9	1.38
34-34.9	1.14	43-43.9	1.41
35-35.9	1.17	44 and above	1.44

**Cotton Valley, below 36, $0.75. Beginning with 36-36.9, same schedule as above.

Smackover, below 24		$0.75
do	24 and above	0.90
Bellevue		1.20
*Urania, La		1.00
†East El Dorado		0.75

*Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

Jan. 25, The Texas Co. same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.60; 25-25.9, $0.66; 26-26.9, $0.72; 27-27.9, $0.78.

Jan. 26, Magnolia Petroleum met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS

Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective Jan. 28, 1929

Below 28	$0.70	30-30.9	$0.82
28-28.9	0.74	31-31.9	0.86
29-29.9	0.78	32 and above	0.90

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective Jan. 26, 1929

Grades A	$1.20	29-29.9	$1.15
Grades B:		30-30.9	1.17
Below 25	1.05	31-31.9	1.19
25-25.9	1.07	32-32.9	1.21
26-26.9	1.09	33-33.9	1.23
27-27.9	1.11	34-34.9	1.25
28-28.9	1.13	35 and above	1.27

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	May 20	May 13
Soda Ash light 58% bags, cwt.	$1.32	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.55	$1.55
Silicate of Soda 40 deg. tank cars, cwt.	$0.60	$0.60
Silicate of Soda 40 deg. drums cwt.	$0.80	$0.80
Sal Soda wks.	$0.90-1.00	$0.90-1.00
Caustic Soda 76% solid, cwt.	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks.	$18.50	$18.50
Sulfur, flowers of, cwt.	$3.50-4.50	$3.50-4.50
Liquid Chlorine, tank cars, wks, lb.	3.50-5.00	3.50-5.00

Compounders' Supplies

	May 20	May 13
Vegetable Oils		
Linseed carloads, spot, lb.	10.40	10.20
Tanks, spot	9.60	9.30
Soya Bean, Tanks, coast, lb.	9.625	9.00
Oleic Acid		
Distilled, tanks, lb.	9.75	10.625
Distilled, bbls, lb.	10.625	10.75
Saponified, tanks, lb.	10.75	10.75
Saponified, bbls, lb.	11.625	11.625
Lard Oils		
Prime Winter Strained, lb.	15.25	15.25
Extra Winter Strained, lb.	13.25	13.25
Extra, lb.	12.875	12.875
Extra No. 1, lb.	12.50	12.50
No. 1, lb.	12.25	12.25
No. 2, lb.	12.00	12.00
Tallow oil, lb.	11.25	11.25
Neatsfoot Oil		
Pure, bbls, lb.	14.75	14.75
Extra, bbls, lb.	12.75	12.75
No. 1 bbls, lb.	12.50	12.50
Cold Pressed, lb.	18.75	18.75
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	71	71
Light Pressed, tank cars, N.Y. gal.	65	65
White bleached, gal.	77	77
Yellow bleached, gal.	73	73
Whale, extra winter bleached, gal.	82	82
Naval Stores		
Steam distilled turpentine, N. Y., gal.	51	51
Steam distilled turpentine, Savannah, gal.	48	48
Gum turpentine, N. Y., gal.	53.50	53.50
Gum turpentine, f.o.b. cars Savannah, gal.	50	50
Wood Rosin F, N. Y., bbl.	$7.30	$7.30
Wood Rosin F, Savn'h, bbl.	$6.60	$6.60
Gum Rosin B, N. Y., bbl.	$7.45	$7.45
Gum Rosin B, f.o.b. cars Savannah, bbl.	$6.55	$6.55
Rosin oil, pure, gal.	61	61
Rosin oil, compounded, gal.	50	50
Pine Tar		
Kiln burnt, bbl.	$13.00-14.00	$13.00-14.00
Retort, bbl.	$13.50-14.50	$13.50-14.50
Alcohol		
Denatured Formula 5, in bbls., per gal.	56-63	55-63

OIL STOCKS AND FINANCES

National Petroleum News

Oil Investment Shares Net 23 Per Cent

NEW YORK, May 18.—Oilstocks, Ltd., which completed its first year May 1, reports net profits of $907,195 in the 12 months, after interest, expenses and taxes. This sum averaged $2.80 a share on the 343,527 outstanding Class A and Class B shares.

The profits represented 23 per cent on the trust's investment fund. April 30 it had unrealized or paper profits amounting to $427,326 or 11 per cent more on the investment fund.

Oilstocks' capital structure consists of 241,327 Class A shares and 102,200 Class B shares outstanding. In addition, there are outstanding warrants for purchase of 10,000 Class A shares at $12 a share and for 200,000 Class B shares at $10 a share. Both classes rank equally except as to voting power which is vested in the B stock. If, however, during any calendar year cash dividends of at least 50 cents have not been declared, paid or set apart for payment, Class A stock shall have one vote a share for all purposes until all past dividends at the 50-cent rate have been made up, upon which sole voting power again reverts to the B stock.

The trust deals exclusively in securities of oil companies but under its charter it cannot engage directly in the oil business. Among its holdings, its portfolio shows, are Gulf Oil Corp., Anglo-American Oil Co., Ohio Oil Co., Marland Oil Co., Royal Dutch Co., Standard Oil Co. of California, Union Oil Co., Standard Oil Co. of New Jersey, Tide Water Oil Co. and The Texas Corp. shares.

Directors of Oilstocks include James H. Barr, chairman, National Supply Co.; R. D. Benson, director, Tide Water Oil Co.; Thomas J. Meager, vice president of Pennok Oil Corp.

E. L. Miller, vice president in charge of sales, J. A Strong, distribution manager and John Munro, superintendent of bulk plants of the Shell Petroleum Corp., arrived in Cleveland at 3 p.m., May 16 in the company's 12-passenger tri-motored Fokker airplane Gold Shell, having flown from Chicago. The three men left in the plane for Indianapolis on the morning of May 17. All of them make their headquarters in St. Louis.

—*International Newsreel Photo*

Orville Harden

Becomes Standard Director At Thirty-Five

NEW YORK, May 17.—The well-traveled path of office boy-to-director has once more been completed in the Standard Oil Co. of New Jersey ranks with the recent election of Orville Harden, 35, to the board of directors. Not only does Mr. Harden's claim to distinction lie in the fact that he has arrived at a directorship in one of the world's largest corporations at so early an age, but also that he is the youngest member of the board of his company.

All of Mr. Harden's 19 years in business have been with the Standard of New Jersey. Starting at the age of 16, he went to this company and was given the job of office boy.

After junior and senior clerkships, he was made assistant to Mr. McKnight in 1917. After that he was appointed secretary of the manufacturing committee, succeeding Mr. McKnight who became chairman of that committee.

Now Mr. Harden is manager of the coordination department. That department was created in 1925 to coordinate production, transportation, refining and distribution, eliminating waste, duplication of effort, etc., picking up all the loose ends and operating somewhat on the principle of a main telephone exchange.

Mexican Seaboard Votes Increase in Stock

NEW YORK, May 18.—Mexican Seaboard Oil Co. stockholders have approved an increase of capital stock from 1,000,000 to 2,000,000 no par shares. Holders of May 29 record may now subscribe for additional capital stock at $32 a share on a basis of one share for each four held. Subscription rights expire June 25.

Rex Townsend and Carl E. Stehle were elected directors at the annual meeting. Other directors were re-elected. All officers also were re-elected.

Tidal-Darby Merger Approved

NEW YORK, May 18.—Stockholders have approved a merger of the Tidal Osage Oil Co. and the Darby Petroleum Corp.

Financial Notes

Shell Union Oil Co.—All retiring directors were re-elected at annual meeting.

Standard Oil Co. of New York—Rodney S. Durkee, formerly treasurer of the General Petroleum Corp., has been elected comptroller and general auditor of Standard to succeed Arthur E. Hinch who has retired after 41 years' service.

Louisiana Oil Refining Corp.—Directors were re-elected at annual meeting.

Independent Oil & Gas Co.—Company will retire June 17 $1,500,000 of 6 per cent 12-year convertible debentures at 104. The bonds may be converted into capital stock at $32.21 a share.

Lion Oil Refining Co.—T. M. Martin has been appointed vice-president in charge of sales and M. E. Wilson has been elected director in charge of production, leasing and geology.

Prairie Pipe Line Co.—Extra dividend of 50 cents a share declared in addition to the regular dividend of 75 cents a share on the new stock, the same as in the first quarter of 1929.

Standard Oil Co. of California—All directors were re-elected at annual meeting. All officers were re-elected.

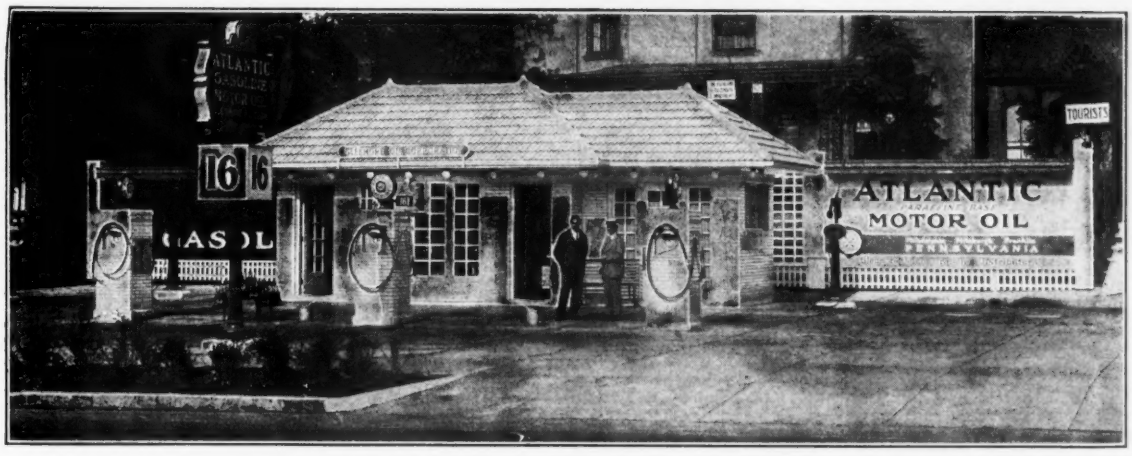
Standard Oil Co. of Indiana—Directors have fixed $61 a share as the price at which stock will be sold employes from April 1, 1929, to March 31, 1930.

It all depends on the Meter

NO matter how fine your location or how attractive your station, if you are not prepared to give QUICK, ACCURATE SERVICE to motorists you will not establish a business built up by steady customers.

Keystone Gasoline Service Station Meters for super service stations, are the answer to the questions, How Quick, How Accurate?

The Keystone Gasoline Service Station Meter for super service stations



PITTSBURGH EQUITABLE METER COMPANY

MAIN OFFICE AND WORKS PITTSBURGH, PA.

		BRANCH OFFICES		
1433 MAIN ST. COLUMBIA, S.C.	525-16th AVE. NORTH SEATTLE, WASH		331 RIO GRANDE AVE. SALT LAKE CITY, UTAH	MUTUAL BLDG. KANSAS CITY, MO.
REPUBLIC BANK BLDG. DALLAS, TEXAS	50 CHURCH ST. NEW YORK, N.Y.	UNION BANK BLDG. LOS ANGELES, CALIF.	KENNEDY BLDG. TULSA, OKLA.	PEOPLES GAS BLDG. CHICAGO, ILL.

Transactions in Oil Shares on New York Stock Exchange

1928 High	1928 Low	1929 High	1929 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended May 18 Sales	First	High	Low	Last	Change
43⅞	27⅛	42⅝	30⅛	(sh) 922,075	N.P.	Amerada Corp.	50cQ	Apr. 30, 29	22,500	31⅜	31⅜	27½	28⅛	— 3¼
85	51⅛	64¾	44	(sh) 209,180	N.P.	American Republics Corp.	....	.....	3,600	54½	54½	50	50	— 4½
5 ⅜	37½	47¼	43	$56,000,000	$25	Associated Oil.	50cQ	Mar. 31, 29	280	45	45¼	45	45	0
62½	50	71½	53½	50,000,000	25	Atlantic Refining.	‡25cQ	Mar. 15, 29	199,600	70⅞	70⅞	66⅜	68½	— 2½
118¼	114½	117⅜	114	20,000,000	100	do pfd.	$1.75Q	May 1, 29	.....	.....	.....	.....	.....	.....
53	20	49⅛	38⅛	47,261,125	25	Barnsdall Corp. A.	50cQ	May 6, 29	174,000	47⅜	47⅞	44½	45⅞	— 1⅝
51⅜	20	49	38⅛	300,525	25	do B.	50cQ	May 6, 29	.....	.....	.....	.....	.....	.....
24½	12¼	28½	20	(sh) 956,075	N.P.	Beacon Oil.	....	.....	9,200	23¾	26	23⅛	24¾	+ 1¼
36	25¼	30	26¾	$51,524,150	$25	California Petroleum.	....	Jan. 1, 29	.....	.....	.....	.....	.....	.....
94⅞	68	84½	63	21,031,400	100	General Asphalt.	....	.....	59,600	77	*84½	75	82¾	+ 4⅞
141	110⅜	128¾	104½	6,628,200	100	do pfd.	$1.25Q	Mar. 1, 29	4,600	121	*128¾	120½	126	+ 4
167	79	107	80⅜	25,000,000	100	Houston Oil.	....	.....	9,200	96	96	90	93	— 3¼
38⅜	21⅜	39¼	30	(sh) 1,333,157	N.P.	Independent Oil & Gas.	50cQ	Apr. 30, 29	23,700	38⅛	*39¼	37⅛	38	— ⅛
39⅝	9	52⅝	29	$4,299,190	$10	Indian Refining.	....	Dec. 15, 20	58,500	48	48	43½	45¼	— 2½
37¼	8½	48¾	28	4,550,110	10	do ctfs.	....	.....	38,400	45⅜	45⅜	40	42⅛	— 2⅜
185	140	165	160	1,977,700	100	do pfd. new.	$1.75Q	Apr. 1, 29	.....	.....	.....	.....	.....	.....
39⅛	27⅜	33½	26¼	3,992,387	N.P.	Lago Oil & Transport.	....	May 2, 27	3,500	29	29½	28	29½	— ⅝
19¾	9⅜	18	12¾	(sh) 1,187,298	N.P.	Louisiana Oil Refining.	....	.....	15,000	14⅞	14⅞	14	14¼	— ¾
96	78	100	89	$4,000,000	$100	do pfd.	$1.62½	May 15, 29	40	92¾	92¾	91	91	+ ⅛
25½	12½	18½	12	(sh) 330,000	N.P.	Maracaibo Oil.	....	.....	1,000	16⅛	16¼	15	16¼	— ⅛
49¾	33	47⅞	35⅞	(sh) 2,316,897	N.P.	Marland Oil Co.	....	Mar. 31, 27	25,600	39½	39¾	37½	38	— 1⅜
360	250	295	205	$45,942,800	$100	Mexican Petroleum.	‡3Q	Apr. 20, 29	.....	.....	.....	.....	.....	.....
...	...	...	...	12,000,000	100	do pfd.	$2Q	Apr. 20, 29	.....	.....	.....	.....	.....	.....
73	4⅝	69⅜	41½	(sh) 995,500	N.P.	Mexican Seaboard.	....	Nov. 15, 24	700	53¾	53⅞	50¼	51	— 2½
44½	25⅛	39⅞	30½	(sh) 1,857,461	N.P.	Mid-Continent.	50cQ	May 15, 29	33,300	36	36¾	35	35⅞	— ¼
120½	103¼	121	120¼	$6,718,000	$100	do pfd.	$1.75Q	Mar. 1, 29	.....	.....	.....	.....	.....	.....
7⅜	2⅜	5⅛	3¾	23,849,720	10	Middle States.	....	July 1, 23	6,700	4½	4½	4⅛	4⅛	— ⅛
5⅞	1½	3½	2¾	5,950,500	10	do ctfs.	....	.....	200	2⅞	2⅞	2¾	2¾	— ⅛
2¼	1	1½	1	(sh) 3,500,000	N.P.	Pacific Oil.	....	.....	6,900	1	1⅛	1	1	0
55½	38¼	63	41⅛	$50,000,000	$50	Pan American P. & T.	....	Oct. 20, 27	5,500	59¼	61¼	58	59½	— ½
58⅞	37¾	66¾	40½	121,101,400	50	do B.	....	Oct. 20, 27	233,100	62¼	65⅛	59⅛	63⅜	+ ⅜
28⅜	15½	17½	14	(sh) 400,000	N.P.	Pan American Western B.	....	Jan. 30, 27	100	14½	14½	14½	14½	+ ½
21¾	11½	15¼	9½	(sh) 199,370	N.P.	Panhandle P. & R.	....	.....	500	12½	12½	12¼	12¼	— 1¼
106¼	70	76	47½	$2,935,200	$100	do pfd.	....	July 2, 23	100	62	62	62	62	— 4
53⅞	35¼	47	37¼	(sh) 2,406,803	N.P.	Phillips Petroleum.	37½cQ	Apr. 1, 29	14,100	41¾	41¾	40¼	40⅞	— 1⅛
5¼	½	3⅜	2¼	$29,622,925	$25	Pierce Oil.	....	.....	5,900	2⅝	2¾	2½	2½	— ¼
50	16¾	51½	30	15,000,000	100	do pfd.	....	Feb. 1, 22	600	41½	41½	41	41½	+ 1½
6⅝	3½	5¼	4⅝	(sh) 2,500,000	N.P.	Pierce Petroleum.	....	.....	.....	.....	.....	.....	.....	.....
64⅝	59½	65⅝	57	$60,636,450	$25	Prairie Oil & Gas.	....	Aug. 31, 27	20,800	59¾	59¾	†57	57¼	— 2½
...	...	61½	53⅝	101,250,000	25	Prairie Pipe Line.	‡75cQ	Mar. 31, 29	21,900	60	61	59½	60	0
29⅞	16	25⅞	18¼	37,450,850	50	Producers & Refiners.	....	Sept. 15, 23	1,200	21¼	21¼	20⅜	20½	— ¾
49¾	41	45¾	38⅛	2,845,350	50	do pfd.	....	May 1, 25	110	42½	43½	42½	43½	0
31¾	19	30¾	23½	75,959,250	25	Pure Oil Co.	25cQ	Mar. 1, 29	52,400	29⅛	29½	27½	29½	+ ¼
119	108	115½	112	13,000,000	100	do 8% pfd.	$2Q	Apr. 1, 29	70	114⅜	114½	112½	114	— 1
56	23½	49⅝	40	47,127,725	25	Richfield Oil.	50cQ	May 15, 29	24,000	47⅜	47½	44½	46	— 1¼
...	...	42½	33¾	(sh) 1,200,000	N.P.	Rio Grande Oil Co.	‡$1S.A.	Jan. 25, 29	21,100	36⅝	36⅞	35	35¾	— 1¼
64	44⅝	55¾	31¾	(sh) 546,646	$13.40	Royal Dutch N. Y. shares.	$1.336	Feb. 8, 29	4,700	52	53¼	51⅝	52½	+ ½
57½	39⅜	55¾	43	(sh) 65,203,000	£2	Shell Transport & T.	96.4c	Feb. 8, 29	.....	.....	.....	.....	.....	.....
39⅜	23¼	31⅜	26	12,254,979	N.P.	Shell Union Oil.	35cQ	Mar. 31, 29	41,400	29¾	30	28¾	29¾	+ ¼
27¼	18⅛	34¼	18¼	$8,357,280	$10	Simms Petroleum.	40cQ	Mar. 15, 29	69,700	30¾	30¾	29⅛	29½	— ½
46¾	17⅜	45	36	5,494,095	N.P.	Sinclair Consolidated.	‡50cQ	Apr. 15, 29	121,500	38⅝	38⅞	37¼	38	— ⅝
110	102½	111	107¾	$16,025,200	$100	do pfd.	$2Q	May 15, 29	100	108½	108½	108½	108½	+ ⅜
42⅝	25	46½	32⅞	27,396,590	25	Skelly Oil Co.	50cQ	Mar. 15, 29	37,500	43⅝	43⅞	40	43⅜	+ ⅜
80	53	81⅞	64	(sh) 13,016,435	N.P.	S. O. California.	62½cQ	Mar. 15, 29	50,700	79½	79⅝	77⅛	77⅞	— 1
59¾	37⅜	62⅜	48	$612,095,850	$25	S. O. New Jersey.	‡25cQ	Mar. 15, 29	116,700	61⅞	61⅞	59	59¾	— 2¼
45½	28¾	45¾	38⅝	434,094,575	25	S. O. New York.	40cQ	Mar. 15, 29	90,000	43	43	41⅛	41½	— 1⅜
77	31½	68½	57	(sh) 1,297,847	N.P.	Sun Oil.	25cQ	Mar. 15, 29	1,500	64	64	62	68	— 1⅜
110	100	105½	100	$5,000,000	$100	do pfd.	$1.50Q	Mar. 1, 29	60	102¾	103	102¾	103	0
14¼	2½	12	7	(sh) 1,304,698	N.P.	Superior Oil Corp.	....	Dec. 20, 20	42,600	8¼	8¾	7¾	8½	+ ⅛
74¾	50	68½	57¼	$211,082,925	$25	The Texas Corp.	75cQ	Apr. 1, 29	32,200	65⅜	65⅝	64	64⅞	— ⅝
26⅝	12⅛	23⅞	16¼	8,380,340	10	Texas Pacific Coal & Oil.	2½⅞s	Mar. 20, 29	12,000	20⅝	20⅝	19¼	19½	— 1⅛
41½	19⅝	38½	27½	(sh) 2,179,275	N.P.	Tide Water Oil Co.	20cQ	Mar. 31, 29	5,800	37¼	38	35½	38	+ 1
100⅛	86¾	97½	89¾	$20,321,000	$100	do 5½% pfd.	$1.25Q	May 15, 29	500	94⅝	94⅝	†89¾	94	— 1½
25	14¾	23⅜	17½	(sh) 4,877,976	N.P.	Tide Water Associated.	.....	Aug. 1, 27	83,200	22¼	22½	20⅞	21⅜	— ⅞
91¾	81⅞	90	86	$72,989,200	$100	do pfd.	$1.50Q	Apr. 1, 29	9,000	89	89	86½	88	— 1⅜
14½	6¾	13	9	(sh) 3,842,029	N.P.	Transcontinental Oil.	....	.....	71,900	13	13⅛	12⅛	12¼	— ¾
58	42¾	54⅛	46	$40,858,375	$25	Union Oil of California.	50cQ	May 10, 29	7,400	50¾	50¾	49½	50⅜	— ¼
128⅛	110	150¼	121⅞	31,101,200	100	Union Tank Car Co.	$1.25Q	Mar. 1, 29	400	138	139¾	138	139¾	— 1½
44⅞	26	42⅞	31¾	(sh) 488,359	N.P.	Warner Quinlan.	50cQ	Apr. 2, 29	12,900	33¾	33¾	†31¾	33⅜	— ½
38	20⅛	37⅞	30¼	(sh) 490,000	N.P.	White Eagle Oil & Refining.	50cQ	Apr. 20, 29	3,000	35	35⅞	34¼	35⅞	+ ⅞
22⅛	17¼	29¾	19½	(sh) 428,967	N.P.	Wilcox Oil & Gas.	....	May 10, 28	5,600	26⅞	26⅞	25½	26	— ⅞

*New High †New Low XEx-dividends ‡Also extras s-Stock Total Sales 1,917,960

Pittsburgh Stock Exchange

Transactions Week Ended May 17, 1929

	Sales	High	Low	Last	Change
Ark. Nat. Gas.	6,900	8	7½	7⅞	— ⅛
do pfd.	4,840	8¼	8	8¼	+ ¼
Devonian Oil.	555	10¼	9½	10	0
Dixie Gas & Util.	1,400	20¼	19	20	— ½
do pfd.	95	80½	76	80½	+5½
Lone Star Gas.	6,376	75⅞	72	75	+2¾
Plymouth Oil.	2,125	25	24½	25	0
Salt Creek Cons.	185	3½	3½	3½	— ½
Tidal Osage.	190	15½	15	15½	—1

Tank Wagon Tables

(Continued from Page 141)

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	14.7	16.2	18
Detroit	16.4	17.9	19.7
Kansas City	†14.9	†16.4	†18.2
Milwaukee	15.4	*18.9	*20.7
Minneapolis	*18.7	*20.2	*22
St. Louis	14.6	16.1	17.9
New York		17	23
Boston		19	23

*Includes 2c state tax. †Includes 1c city tax.

Petroleum Spirits

Tank Cars (Solvent)	
New York refineries	11.50
Philadelphia refineries	11.50
Tank Wagon or Steel Barrels	
New York City	17
New England	19
New Jersey	16
Pennsylvania	16–18

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

	Gasoline T.W. Tax	Gasoline T.W. S.S	Oil T.W
ONTARIO			
Toronto	19.5 5	24.5 28	21
Ottawa	13.5 5	18.5 22	21
Cochrane	24.5 5	29.5 ..	26
Ft. William	22.5 5	27.5 31	22.5
MANITOBA			
Winnipeg	21.5 3	24.5 28	21.5
SASKATCHEWAN			
Regina	26 3	29 33	26
ALBERTA			
Edmonton	27.5 3	30.5 34	27.5
Calgary	23.5 3	26.5 30	23.5
BRITISH COLUMBIA			
Vancouver	22 3	25 29	23
QUEBEC			
Montreal	19.5 5	24.5 28	22
Quebec City	20.5 5	25.5 29	23
Three Rivers	21.5 5	26.5 30	23
NEW BRUNSWICK			
St. John	24 5	29 33	25
Moncton	24 5	29 33	25
NOVA SCOTIA			
Halifax	24 5	29 33	25
Sydney	24 5	29 33	25
PRINCE EDWARD ISLAND			
Charlottetown	24 5	29 33	25

Note: In districts surrounding these points 1c additional is added to city price.

Cleveland Stock Market

May 17	Par Value	Bid	Asked
Canfield Oil Co.	$100	125	140
do pfd.	100	103	...
Fred G. Clark.	10	9⅝	10½
National Refining.	25	x36	37
do pfd.	100	...	137½
Paragon Refining.	25	23	23½
do pfd.	N.P.	43½	44
do ctfs. of deposit	...	23	23¾

xEx dividend

Oil Company Earnings

Year	1928	1927
Pan American Pet. & Transport Co.	$10,071,576	$16,909,039
Standard of N. J.	108,485,686	40,422,857
Year Ended Mar. 31	**1929**	**1928**
Pure Oil Co.	$11,224,081	$4,710,585
First Quarter	**1929**	**1928**
Marland Oil Co.	*$873,497	*$1,876,992
Tide Water Associated	1,613,671	2,071,473
Tide Water Oil.	861,299	742,775

*Loss.

REFINING SCIENCE MODERNIZED

Guaranteed 100% PURE PENNSYLVANIA OIL

QUALITY

75 at 210

W. H. DAUGHERTY & SON REFINING COMPANY PETROLIA, PA.

60 at 210

FRANKLIN CREEK REFINING CORP. FRANKLIN, PA.

100% PENNSYLVANIA OILS SHARPLES PROCESSED

SALES OFFICES - 114 - 5th AVE., NEW YORK

A NEW Leader DRAIN RACK

Fig. 616—24" high.
$57.70

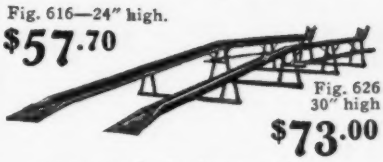


Fig. 626
30" high
$73.00

Prices F. O. B. Decatur, Illinois.

Keeping step with the automobile industry Leader has developed a new model Drain Rack, built so that any car—old or new—can mount the rack without interference.

Made in two sizes:

Fig. 616—24" high, 9½" runways $57.70

Fig. 626—30" high; 9½" runways $73.00

Prices F. O. B. Decatur, Illinois. For detailed specifications, write for Bulletin 616.

LEADER IRON WORKS

2112 N. Jasper St. Decatur, Ill.
21 E. 40th St., New York, N. Y.

Cuts truck-washing costs . . .

A CERTAIN oil company recently cut the cost of materials used for cleaning and washing tank wagons from 48 to 14c per truck by using Oakite methods.

Savings such as this indicate why so many refiners and marketers standardize on Oakite materials and methods for every sort of cleaning job.

Call in an Oakite Service Man. Let him show you the way to real speed and economy in cleaning. A card to us brings him. No obligation.

Oakite Service Men, cleaning specialists, are located in leading industrial centers of U. S. and Canada.

Manufactured only by

OAKITE PRODUCTS, INC.
42C Thames St., New York, N. Y.

OAKITE
Industrial Cleaning Materials and Methods

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Standard Oil Stocks on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended May 18 Sales	First	High	Low	Last	Change
22⅜	14⅞	18¾	14¾	£4,126,460	£ 1	Anglo-American Oil	24.4c	June 6, 28	13,500	14¾	16⅛	14¾	16	+ 1
21¼	15	18	14½	.....	....	do certificates	.....	.....	.....	.....	.....	.....	.....	.....
20½	14⅜	17	14	.....	£ 1	do cts. non-voting	.....	.....	500	14⅝	14⅝	14⅛	14½	0
5	1¼	2⅜	1½	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	4,800	2	2	1½	1¾	— 1/8
9¾	3¼	4⅛	1½	$10,000,000	$50	do pfd	.....	.....	1,000	3¾	2¾	†1½	1½	— 2¼
56	44½	46½	38	$1,000,000	25	Borne-Scrymser	‡$1S.A.	Apr. 15, 29	.....	.....	.....	.....	.....	.....
76	58	74⅛	67	10,000,000	50	Buckeye Pipe Line	‡$1Q	Mar. 15, 29	300	70¼	70¾	70	70¾	0
161	117¼	170¾	140¼	3,000,000	25	Chesebrough Mfg	‡$1Q	Mar. 31, 29	300	169¾	170⅛	169¾	170⅛	+ ⅜
23	16	29	17⅛	36,123,350	10	Continental Oil	.....	Dec. 15, 27	8,800	22¾	22⅞	22⅛	22¼	— ⅜
17½	9½	11⅜	8⅝	.....	N.P.	Creole Petroleum	.....	.....	8,100	8⅞	8⅞	8½	8½	— ⅜
82	67	75¾	62	1,500,000	50	Cumberland Pipe Line	‡$1Q	Mar. 15, 29	.....	.....	.....	.....	.....	.....
88	64½	70½	59½	5,000,000	100	Eureka Pipe Line	$1Q	June 1, 29	.....	.....	.....	.....	.....	.....
13	4¼	6⅝	5	16,000,000	100	Galena Signal Oil	.....	June 30, 25	800	5	5⅞	†5	5¾	0
86	26	90	74½	4,000,000	100	do new pfd	.....	June 30, 26	250	74½	75	74½	74½	0
89¾	35	88	75	2,000,000	100	do old pfd	.....	June 30, 26	100	75½	75½	75¼	75¼	0
114¾	59¼	124½	89⅝	73,685,700	25	Humble Oil & Refining	‡30cQ	Apr. 1, 29	14,500	120½	121⅛	117	117½	— 2½
290½	176½	340½	285	20,000,000	100	Illinois Pipe Line	$10S.A.	Dec. 15, 28	400	323½	324½	310	311	+ 1
104	56¾	119⅝	88	(sh) 6,605,442	N.P.	Imperial of Canada	‡25cQ	Mar. 1, 29	3,800	115½	115½	113⅝	113⅝	— 2⅛
91⅞	74⅝	97	81¼	$5,000,000	$50	Indiana Pipe Line	‡$1Q	May 15, 29	1,900	92	96	89	96	+ 3¼
55	35	65½	46⅛	(sh) 7,123,544	N.P.	International Petroleum	25c	Mar. 15, 29	6,400	53¼	53¼	50⅝	51⅞	— 1⅜
32⅝	19⅜	25⅞	21⅜	$6,363,350	12.50	National Transit Co	‡25cQ	Mar. 15, 29	600	24	24	23¾	24	+ ⅛
75	38½	85	72	5,000,000	100	New York Transit	.....	July 15, 26	150	85	85	85	85	0
69	56½	63	54	2,000,000	50	Northern Pipe Line	$2S.A.	Jan. 2, 29	150	58¾	59	58¾	59	+ ¼
83½	58½	74⅜	64⅛	60,000,000	25	Ohio Oil Co	50cQ	Mar. 15, 29	2,400	70½	70½	67½	67½	— 2½
84	28	44½	29⅞	10,000,000	25	Penn Mex. Fuel	75c	Dec. 16, 28	100	29⅞	29⅞	†29⅞	29⅞	0
220	167	50	40	4,000,000	25	Solar Refining	$5S.A.	Dec. 20, 28	200	43½	43½	42	42	0
19	12	22½	13	1,000,000	10	Southern Pipe Line	$1	Mar. 1, 29	300	21	21⅜	20⅛	20⅛	— ¾
71⅞	36¾	60¼	40⅛	30,000,000	25	South Penn Oil	50cQ	Mar. 31, 29	4,400	56⅝	57	53½	55⅛	— 2⅛
102	70	70	62¾	1,750,000	50	South West Pa. Pipe Lines	$1	Apr. 1, 29	.....	.....	.....	.....	.....	.....
95⅞	70⅞	103¼	56	348,175,069	25	S. O. Indiana	‡62½cQ	Mar. 15, 29	22,100	58⅝	58¾	56¾	56¾	— 2⅛
27⅜	15	21⅞	18	8,000,000	25	S. O. Kansas	.....	June 16, 24	700	19	19⅛	18½	19⅛	+ ¼
49	44	45¼	37¾	25,654,516	10	S. O. Kentucky new	40cQ	Mar. 31, 29	4,300	38¾	39	†37¾	37¾	— 1⅞
54⅝	39⅞	50¾	45½	4,649,225	25	S. O. Nebraska	‡62cQ	Mar. 20, 29	1,000	49½	*50¼	49	49	— ⅛
134	71	129	110¼	14,000,000	25	S. O. Ohio	62½cQ	Apr. 1, 29	350	127	127	124½	126¾	— 1
125	116	124½	116	7,000,000	100	do pfd	$1.75Q	Mar. 1, 29	20	116	116½	†116	116½	+ 2
23½	16	18	15	861,466	25	Swan Finch Co	30c	Jan. 15, 29	100	15	15	15	15	0
111	72	133⅝	105½	126,154,000	25	Vacuum Oil	$1Q	Mar. 20, 29	5,200	124⅝	124⅝	122	122⅛	— 2⅜

*New High †New Low ‡Also Extras

Independent Oils on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Par Value	Stocks	Transactions Week Ended May 18 Sales	First	High	Low	Last	Change
1½	.53	.72	.375	$ 5	Amer. Cons. Oilfields	1,800	1/2	1/2	7/16	7/16	— 1/16
9½	3½	8⅝	4½	N.P.	Amer. Maracaibo	5,800	4⅝	4⅞	4½	4⅝	— ⅛
4½	2¼	5	1⅞	$10	Argo Oil	400	3½	3½	3	3	— ¾
3¾	3⅛	8½	3¾	10	Arkansas Nat. Gas	108,400	8	8⅛	7½	7¾	— ⅛
55	32¾	62	50	N.P.	British American Oil	.....	.....	.....	.....	.....	.....
23⅞	3¾	4⅞	2⅝	25c	Carib Syndicate	18,800	3¾	*4⅞	3¾	4½	+ ¾
90¼	54	121⅞	88⅝	$25	Cities Service	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	do new	76,200	29⅛	29¼	28½	28¾	— ½
103½	94½	98½	88⅛	100	do pfd	2,800	98¼	98¾	98	98⅜	— ⅛
9⅝	8⅞	9¼	8⅞	10	do pref. B	300	9	9	9	9	0
97	88½	95	92½	100	do pref. BB	400	...	96	94	96	+ 2
35¼	27⅜	....	....	10	do Bankers	.....	.....	.....	.....	.....	.....
2¼	1	1½	1	1	Colombia Syndicate	9,400	1⅛	1¼	†1	1	— ⅛
17⅜	9⅜	15	8¼	....	Colon Oil	800	9¼	9¾	9¼	9¼	.....
8¼	6¼	11⅜	6⅛	10	Consolidated Royal	1,100	7¼	7½	7¼	7½	— ⅜
3¼	.76	2⅛	1⅜	N.P.	Crown Central	800	1¾	1¾	1¾	1¾	.....
15	6¾	11¼	8	N.P.	Crystal Oil	.....	.....	.....	.....	.....	.....
50	48	51¾	51¾	$100	do pfd	.....	.....	.....	.....	.....	.....
33½	8⅛	26	15	N.P.	Darby Petroleum	4,100	16½	17⅞	15	15	— ½
13½	7¾	....	....	....	do trust ctfs	.....	.....	.....	.....	.....	.....
2⅞	1	5	2	N.P.	Derby Oil & Refining	8,100	4¾	6⅞	4½	6¼	+ 2¼
21¾	7½	....	....	N.P.	do pfd	400	28½	30½	28½	30½	+ 1
2	1	....	....	N.P.	Gibson Oil	.....	.....	.....	.....	.....	.....
.53	.15	....	....	N.P.	Gilliland ctfs	.....	.....	.....	.....	.....	.....
165	101¾	189	142¼	$25	Gulf Oil Corp	284,000	174	*189	170⅛	184⅞	+14
7½	5⅜	7½	4½	5	Homaokla Oil	2,400	8	5	4¾	5	.....
3⅜	1	2⅞	1¼	10	Intercontinental Pet	66,900	2¾	*2⅞	2½	2⅞	+ ⅛
3	¼	3⅜	1½	N.P.	Kirby Petroleum	1,900	1⅝	1⅞	1⅝	1¾	— ¼
9⅜	5¼	6¼	5	N.P.	Leonard Oil & Dev	7,400	5	5	5	5	.....
43⅜	20	38⅞	24¾	N.P.	Lion Oil & Refg	4,800	36½	36¾	35⅛	35⅛	— 2⅜
69½	48¼	75⅞	67	$25	Lone Star Gas	3,800	72⅜	*75⅞	72⅛	74½	+ 2⅝
1⅞	.50	1¼	.50	1	Magdalena Syndicate	9,100	½	⅝	½	½	— 1/16
48½	32	38½	25	N.P.	Margay Oil	.....	.....	.....	.....	.....	.....
40½	40½	....	....	$10	Mexican-Panuco	.....	.....	.....	.....	.....	.....
8	2¾	6¾	3⅜	N.P.	Mexico-Ohio Oil	300	5	5	4½	4½	— ½
.74	.20	....	....	$10	Mexico Oil	.....	.....	.....	.....	.....	.....
1¾	.76	1½	1	1	Mountain & Gulf	2,400	1⅛	1¼	†1	1⅛	— ⅛
28⅞	19½	22⅞	17⅜	10	Mountain Producers	3,900	17⅞	18	17⅝	17⅝	— ⅛
5⅝	4¼	5	3⅞	5	New Bradford	200	4	4¼	4	4⅛	+ ⅛
5½	3	3½	3	10	New England Fuel	.....	.....	.....	.....	.....	.....
11⅞	7⅛	9⅜	6¼	1	New Mex. & Ariz	400	6½	6½	†6¼	6⅜	— ⅛
15½	11½	....	....	25	New York Petrol	100	19⅛	19⅞	19	19⅝	+ ½
40	39¼	....	....	....	North Amer. Oil Cons	.....	.....	.....	.....	.....	.....
13¼	8½	11⅝	8¾	N.P.	North Cent. Texas	200	11	11¼	11	11¼	+ ¼
....	....	19¼	14⅝	N.P.	Oil Stock, Ltd. A	6,900	17½	18	17	17⅝	+ ⅛
....	....	17⅞	15	N.P.	do B	100	17⅜	17⅜	17⅜	17⅜	.....
26¼	20	23¼	17	N.P.	Pacific Western Oil	1,800	18⅛	18⅝	†17	18⅝	+ ½
6	2¼	3½	2	N.P.	Pandem	300	2¼	2¼	2	2	— ⅛
15⅝	8½	10¼	6⅛	N.P.	Pantapec	500	7	7¼	†6⅛	7	.....
20	10⅝	....	....	$25	Paragon Refg. B. ctfs	100	24¾	24¾	24¾	24¾	— ¾
.09	.04	....	....	N.P.	Peer Oil Corp	.....	.....	.....	.....	.....	.....
7¾	4⅞	7⅜	4⅝	$10	Pennok Oil	.....	.....	.....	.....	.....	.....
....	....	34½	27¼	N.P.	Petroleum Corp	2,500	29	29½	28⅛	28⅜	— ¼
5⅜	3⅛	....	....	$5	Pittsburgh Oil & Gas	.....	.....	.....	.....	.....	.....
31⅜	26½	30	23	N.P.	Plymouth Oil	1,300	24¾	25	23⅞	24	— 1
18	8	16	11½	25	Red Bank Oil	.....	.....	.....	.....	.....	.....
13	4⅛	8½	5	N.P.	Reiter-Foster	11,700	7½	7⅞	6⅝	7	— ⅛
31½	23¼	25½	24⅛	$25	Richfield pfd	.....	.....	.....	.....	.....	.....
....	....	29	23½	....	Root Refining pfd	300	26½	26⅝	26	26½	— ⅛
12	4⅝	11	6⅝	N.P.	Ryan Consolidated	1,100	7¼	7⅞	7¼	7¾	— ⅛
7¼	5½	5⅞	3⅛	$10	Salt Creek Cons	100	3½	3½	3½	3½	.....
35	23¼	25⅞	19	10	Salt Creek Prod	1,600	20⅜	20½	†19	19⅛	.....
3½	1	2¼	1⅜	5	Savoy Oil	.....	.....	.....	.....	.....	.....
40	27	33⅜	32	25	Shreveport El Dorado	.....	.....	.....	.....	.....	.....
....	....	23	16⅝	N.P.	Texon Oil & Land	2,100	21¼	21⅜	20	20⅜	— 1⅛
22⅞	13	16⅞	11⅝	$10	Tidal Osage	2,500	14⅜	16	14¾	15¾	+ ¾
21¼	13⅜	16½	10⅛	10	do non-voting	3,100	14½	16	14½	15⅜	+ ¾
93¾	75	90	80	100	Transcontinental pfd	.....	.....	.....	.....	.....	.....
74¼	18	69	66	10	Venezuela-Mexico	.....	.....	.....	.....	.....	.....
9⅛	4⅜	6½	4¼	5	Venezuelan Petrol	3,100	4⅝	4⅝	4½	4½	.....
8¼	4⅞	9½	5¾	1	Woodley Petroleum	1,100	5⅞	5⅞	5¾	5¾	.....
⅝	⅜	5⅜	2⅝	25	Y Oil & Gas	300	2⅝	2⅝	2⅝	2⅝	— ¼

*New High †New Low

New York Curb Bonds

Week Ending May 17

	High	Low	Last	Change
Beacon Oil 6s '36	113	109	111½	—3
Cities Serv. 5s '66	88⅝	87¼	88⅜	— ⅜
Cities Serv. G. 5½s '42	91	90¼	90½	0
Cities Serv. G. P. 6s '43	95½	95¼	95½	+ ¼
Cont. Oil 5½s '37	95	94¼	94¼	— ⅜
Empire O & R 5½s '42	90½	90¼	90¼	— ¾
Gulf Oil 5s '37	100¼	99¾	100	0
Gulf Oil 5s '47	100½	99¾	100	0
Independent Oil 6s '39	120	114½	116½	—2½
Richfield Oil 5½s '31	101	100⅝	100¾	+ ½
Sun Oil 5½s '39	100⅛	100	100⅛	— ⅜
Valvoline Oil 7s '37	105	105	105	0

Oil Dividends

	Amount	Payable	Stock of Record
Chesebrough Mfg. Co. q	$1	June 29	June 8
do extra	50c	June 29	June 8
Cities Service m	2½c	July 1	June 15
do pfd. m	50c	July 1	June 15
do pref. B m	5c	July 1	June 15
do pref. BB m	50c	July 1	June 15
National Transit q	25c	June 15	May 31
Northern Pipe s.a	$2	July 1	June 7
Oilstocks Ltd. special stk.	10%	June 25	June 10
Prairie Pipe q	75c	June 29	May 31
do extra	50c	June 29	May 31
Sinclair Cons. q	50c	July 15	June 15
do extra	25c	July 15	June 15
S. O. New Jersey q	25c	June 15	May 25
do extra	25c	June 15	May 25

New York Bonds

Week Ending May 17

	High	Low	Last	Change
Assoc. Oil gold 6s	101½	101	101	— ½
Atlantic Refg. deb. 5s	101¾	100	100	—1
Cal. Pet. 5s	99¼	98	99¼	+1¼
Cal. Pet. 5½s	101	100½	100½	— ½
General Asphalt 6s	106	105	106	+1
General Pet. 5s	100⅛	100⅛	100⅛	0
Humble Oil & Refg. 5s	100¼	100	100	0
Humble Oil & Refg. 5½s	101¼	100⅞	101	0
Pan Amer. P & T 7s	104¾	104½	104½	0
Pan Amer. P & T 6s	108½	107¼	108½	— ½
Pan Amer. P & T 6s	97¾	96¼	97	+ ½
Phillips Pet. 5½s	91	89½	91	+ ½
Pierce Oil deb. 8s	105⅛	105¼	105½	0
Prod. & Refg. 8s ex-war.	109½	109½	109½	0
Pure Oil 5½s	98½	98⅜	98¼	— ⅛
Shell Union Oil 5s	97¼	95½	95¾	—1½
Sinclair Con. Oil 7s	102⅝	102	102½	+ ⅛
Sinclair Con. Oil 6½s	100⅝	98⅝	98⅝	—1⅜
Sinclair Con. Oil 6s D	99	98⅝	98⅞	— ⅛
Sinclair Con. Oil Crude 5½s	95½	94½	95½	+ ½
Sinclair Pipeline	94	93¾	93¾	— ⅛
Skelly Oil 5½s	94	93½	93¾	— ¼
S. O. N. Y. 4½s	96⅞	96	96½	+ ¼
S. O. N. J. 5½s	102½	101¼	101¼	—2¼
Union Oil of Calif. 6s A	106½	105	105	—1¾
Union Oil of Calif. 1st 5s A	101¼	101¼	101¼	+ ¼
Union Oil of Calif. 5s C	97⅞	97¼	97¼	— ⅛
White Eagle O & R 5½s	100⅝	100	100	—1